DOCUMENT RESUME

ED 453 383 CE 081 787

AUTHOR	Froeschle, Richard, Ed.
TITLE	Connecting the Dots: The Labor Market Information View of Workforce Development. Essays for the Practitioner.
INSTITUTION	Texas Workforce Commission, Austin. Career Development Resources.
PUB DATE	2000-06-00
NOTE	263p.
AVAILABLE FROM	Texas Workforce Commission, Career Development Resources, 9001 North Interstate 35, Suite 103B, Austin, TX 78753-5233 ($10). Tel: 800-822-PLAN (Toll Free); Web site: http://www.soicc.state.tx.us.
PUB TYPE	Collected Works - General (020) -- Guides - Non-Classroom (055)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Accountability; Adult Education; Career Education; *Career Information Systems; Definitions; Education Work Relationship; Employer Attitudes; *Employment Projections; Global Approach; Information Utilization; Job Search Methods; *Labor Force Development; *Labor Market; Motivation; *Occupational Information; Program Development; *Program Improvement; Regional Planning; Strategic Planning; Surveys
IDENTIFIERS	Globalization; Welfare Reform; Workforce Investment Act 1998

ABSTRACT

This monograph is comprised of 12 essays related to the federal Workforce Investment Act of 1998 (WIA), each of which serves as a generic primer on a topic relevant to work force development staff and researchers nationwide. The essays are "Learning the Language of LMI (Labor Market Information): Basic Labor Market Information Terms and Concepts" (Richard Froeschle); "The Impact of Globalization: The Effects of Global Capitalism on the Domestic Labor Market" (Richard Froeschle, Paul Covey); "Converging Paradigms: The Worlds of Work and Education" (Marc Anderberg, Dan Bristow); "Using Labor Market Intelligence To Guide Strategic Planning: Creating an Effective Labor Market Plan under the WIA" (Richard Froeschle, Marc Anderberg); "Where Are the Jobs? Using LMI To Identify and Target Key Regional Employers" (Richard Froeschle, Mark Hughes); "Using 'Local Wisdom' in Regional Planning: Data-Driven Planning at the Substate Level" (Marc Anderberg et al.); "Getting Started: Creating Momentum for a Targeted Labor Market Approach. Building a Local Consensus and Gathering Appropriate Data" (Robert McPherson, Richard Froeschle); "The Other Customer: Productivity-Enhancing Services for Employers. Strategies To Help Employers Address Human Resources Challenges" (Richard Froeschle); "Motivating and Placing Hard-To-Serve Clients: Teaching Clients about the Labor Market, the Value of Work, and the Need To Take Charge of Their Own Careers" (Michal Rosenberger, Richard Froeschle); "Closing the Loop: Using Follow-Up Data for Program Accountability" (Marc Anderberg); "Case for Career Majors: Using Career Majors To Bridge the Occupational Communication Gap" (Richard Froeschle); and "Using Employer Surveys in Labor Market Planning: When and How To Conduct Surveys for Local Workforce Development Programs" (Richard Froeschle). (YLB)

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The Labor Market Information View of Workforce Development

Essays for the Practitioner

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Connecting the Dots

The Labor Market Information View of Workforce Development

Essays for the Practitioner

Richard Froeschle, Editor

For additional copies, contact:
Texas Workforce Commission
Career Development Resources (formerly the Texas SOICC)
9001 North Interstate 35
Northview Business Center, Suite 103B
Austin, Texas 78753-5233
(800) 822-PLAN
www.soicc.state.tx.us

Published by the:
Career Development Resources, June 2000

About This Monograph

Although this monograph is published in the year 2000, it actually has been many years in the making. Passage of the Workforce Investment Act of 1998 (WIA) has stimulated the need to put many of these writings in a different context and provided the impetus to bring them together into a single publication. This monograph is not, however, a technical assistance guide to the WIA. The subject of each essay is intentionally generic, with only specific references to the WIA or to Texas House Bill 1863 passed in 1995 when appropriate.

Many of these essays originated in a series called *Beyond the Numbers,* published by Career Development Resources (formerly the Texas State Occupational Information Coordinating Committee or SOICC). In *Connecting the Dots* we have enhanced many of these original writings to offer more thorough and thoughtful insights into the world of education and workforce development, global economics, labor market information, and human resources issues. We hope that the principles guiding *Beyond the Numbers*—presenting a clear message with germane examples and useful ideas—have permeated this monograph, as well.

As the primary editor of *Connecting the Dots,* it was my desire to put in place the basics for an in-service professional development curriculum guide. I challenge those of you who are more skilled as curriculum writers to adapt this material into an interesting lesson plan or two and share the results with your colleagues and those on the front lines of case management and workforce development.

As with most compendia, I had the option of compiling the various essays into a single work with a flow more reminiscent of a book to be read cover to cover. Instead, I opted to retain the original text much as it was first authored and to treat each essay as a work unto itself. I believe many readers will be interested in some, but not necessarily all, of these offerings. As such, I encourage readers to begin with the essay that most intrigues them and to branch out based on whatever curiosities have been piqued.

I owe a great deal to the staff of CDR for making this publication possible. It has been an honor to share in the commitment of CDR staff to our mission of providing quality labor market and career information. Not only have they done the expected, but they have pushed the envelope of technical and academic creativity that is a testimony to quality public service. In particular, Marc Anderberg not only authored or co-authored several of these essays but provided an editorial and theoretical sounding board that was invaluable in piecing together much of this material. Many thanks to Elizabeth Dimmitt for volunteering her editorial and graphical talents to piece this final document into a more coherent and internally consistent monograph. She was more than equal to a daunting task. Thanks, also, to Gary Tucker for his illustrations.

Finally, much appreciation is owed to an army of CDR colleagues and supporters who gave willingly of their time, insight, and technical advice so that this publication could bear the stamp of quality. In particular, Mark Hughes should be credited with much of the original labor market targeting process and countless insights on the use of labor market information. To all our readers, I invite your reactions, comments and critiques so that future editions may benefit from your insights.

Richard Froeschle
Department Head, CDR

Preface

A work of this magnitude requires a great deal of review and analysis to ensure its accuracy and consistency. In keeping with this dedication to precision, we ask readers to bear in mind a few caveats as they peruse the text. One concerns the monograph's overall purpose; another addresses the use of the term "resident customer." The final issue involves the relationship between Texas House Bill 1863, passed in 1995, and the federal Workforce Investment Act of 1998 (WIA).

As Rich Froeschle mentioned in *About This Monograph, Connecting the Dots* is **not** a technical assistance guide to the WIA. Neither is it a resource that applies only to Texas. Instead, each essay serves as a generic primer on its topic, relevant to workforce development staff and researchers in Texas and across the country.

To avoid confusion among such a broad audience, *Connecting the Dots* uses terms as precisely as possible, especially when referring to those who receive workforce services. Under current federal law, only U.S. citizens and certain qualified aliens are eligible for federal public benefits, which include employment services provided through the workforce system. Local workforce development boards and/or service providers may need to determine the eligibility of job seekers to assess whether they are entitled to the services offered by the local boards or providers. In light of this situation, *Connecting the Dots* uses the term "resident customer" to describe the qualified individuals who take advantage of workforce services. While "qualified resident customer" may have been even more descriptive, it was simply too unwieldy to adopt.

The complex relationship between federal and Texas state legislation is another area where too many details could prove unwieldy. Texas House Bill 1863, passed in 1995, created a consolidated workforce development system in Texas well in advance of the WIA. Because Texas stands at the leading edge of such consolidation, many of the reforms outlined in House Bill 1863 predate subsequent requirements from the WIA. In many cases, Texas received "grandfather" provisions or other considerations from the U.S. Department of Labor as a result of this pioneer status. The interplay created by the WIA and House Bill 1863 can be confusing. This monograph, as a generic reference, acknowledges the uniqueness of this situation but focuses on issues common and pertinent to both pieces of legislation.

We offer thanks to our Texas Workforce Commission reviewers, whose insight and feedback were invaluable, particularly with regard to the monograph's key caveats. They included Commissioner Diane D. Rath; Commissioner T.P. O'Mahoney; Commissioner Ron Lehman; Sarah Bailey, Program Administrator, Performance Review and Evaluation Division; John Moore, Assistant General Counsel, Office of the General Council; and Leslie Mueller, Director of Special Projects, Administrative Support Division.

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Chapter 1
Learning the Language of LMI
Basic Labor Market Information Terms and Concepts

by Richard Froeschle

Language is the dress of thought. — Dr. Samuel Johnson

Every organized initiative, academic discipline, or career field has its own jargon, terms, definitions, and acronyms that are commonly shared by practitioners. In some cases, that jargon is so unique that someone from the "outside," unfamiliar with the vocabulary, has a difficult time understanding people within that discipline. The field of economics tends to be one of these areas. Benjamin Franklin once remarked that one should never invite more than ten percent economists to a party, else it be doomed to failure! The implication is that economists will seek out other economists and engage in exclusive conversation. Persons with the same background and experiences do tend to gravitate toward each other—they share a common bond, a common understanding, a common language. This tendency is as true for those in the education and workforce development community as for those in economics.

Knowing basic terminology helps you better use LMI in workforce development program implementation.

Labor market information (LMI) analysis, a field closely related to regional economics, demography, and statistics, also tends to be one of these exclusive disciplines. Unfortunately, when LMI professionals talk among themselves, they often shut out of the conversation those who can benefit most from using such information. To ensure that your local workforce development "party" does not become a failure, learn some of the jargon and concepts of LMI so you can join their conversation. This essay presents some basic terminology in hopes of allowing you, the workforce development practitioner, to better communicate within the LMI world, understand and interpret the plethora of economic information that surrounds you, and better use LMI as a meaningful tool in workforce development program implementation.

Of course, labor market information does not train people, place people in jobs, counsel job seekers, allocate resources, or make decisions. These are tasks that only skilled professionals can conduct. Whether the LMI comes from hard

copy publications or through a "whiz-bang" computerized information system, it is only a *tool* serving the people who perform these functions. To use this tool effectively, you must understand certain basic concepts which underlie the publications or software. In addition, you must comprehend how labor markets are structured and change, and possess a rudimentary knowledge of the data themselves.

This introduction presents an overview of the key concepts which will accompany you throughout your use of any computerized LMI system and in performing any variation of labor market study or analysis. It covers some of the terminology used to describe the labor force and introduces important aspects of industries and occupations. After you read this brief summary of LMI concepts, you will not feel like an expert. Your enhanced familiarity with LMI jargon will, however, make you more comfortable within the world of LMI.

Key Concepts for Understanding How the Labor Market Works

Workforce development programs do not exist in a vacuum. In general, they represent a specific government response to assist persons either new to the world of work or those having difficulty in finding a job. In either case, job seekers must interact within the realities of a local labor market to maximize their abilities and earnings potential. If resident customers of the workforce development system must understand how the labor market works in order to get a job, then case managers and program planners must have an even greater awareness in order to assist residents with their job search. The following labor market concepts will help you achieve that awareness.

A labor market is a context in which workers and employers exchange labor for compensation.

What Is a Labor Market?

A "labor market" is not an actual place like a supermarket or the stock market. It is generally a context in which workers and employers exchange labor or work for financial compensation. If there were no demand for workers nor persons willing to work, there would be no need for a concept like the "labor market."

Types of Labor Markets

A labor market can be defined and categorized in several different ways. Each type of labor market offers a different answer to the question, "Where are the jobs?"

Geographic Labor Market

You can define a market by geography. The state of Texas, for instance, represents a geographic labor market. Data on geographic labor markets are used to differentiate economic and demographic characteristics among different physical regions and locales. Although we use political boundaries such as state lines or counties to help define a labor market geographically, these borders do not isolate a community in reality and strict reliance on them may exclude crucial information. People cross borders constantly as a part of job search and residential decisions. Do you pay attention when you cross a city or county boundary? Would it be a consideration for you if you lived in one city but had the opportunity to take a really good job in another city close by? Selection of the geographic area of Houston, for example, limits the number and types of job openings available and the characteristics of occupations to those within the city borders of Houston, while disregarding those on the outskirts.

Industrial Labor Market

The industrial labor market generally refers to job opportunities in a specific industry, such as health services, building construction, food production, and so on. Mention of the "high technology" area or health services, for example, refers to the fact that firms which produce those similar types of goods or services fall within the same industrial category. Generally speaking, increased job possibilities in a particular industry stem from industry growth due to a stronger demand for the products they produce. Thus, you can separate an industrial labor market from a geographic labor market based on this unique categorization. While a region as a whole may not experience any growth (i.e., has few job openings), one or more specific industries within that region may continue to grow despite overall regional economic conditions.

Occupational Labor Market

Finally, you can define a labor market occupationally by classifying job opportunities based on a unique set of skills. Occupational titles serve as a sort of shorthand to communicate specific sets of knowledge, skills, and abilities that employers, experienced workers, and students can understand. An occupation may exist in many different industries, but job opportunities in an occupational labor market focus on a specific occupational category or unique set of skills. The growth of the Internet, for example, has created a high demand for persons with programming skills related to electronic commerce and web site design.

Occupational titles communicate specific sets of knowledge, skills, and abilities.

Given these different types of labor markets, when asking "Where are the jobs?," you must clarify the question by specifying the geographic area (e.g., Texas or Houston), the industry (e.g., health services or agriculture), and/or the occupation (e.g., X-ray Technician, Computer Programmer, or Farmer).

Principles of Data Collection and Use

Now that you know concepts of a labor market, the next step of the journey is to understand more about the process of actually collecting the data. Government reporting requirements account for most of labor market variables currently collected. It probably would not surprise you to know that the U.S. federal government conducts more private sector employer surveys than any other entity in the world. These different surveys target different variables. Thus, every LMI variable has its own definition, origins of collection, geographic coverage, time referents, and level of reliability—all depending on the original purpose of the specific data collection program. Not all data cover the same regions or are equally accurate. Understanding these differences enables you to use the data effectively in your work.

Geographical Units

All data have different geographic coverage areas. Some data focus on the national or state level. Other data apply to cities, counties, or local workforce development board areas. Before you bring together different data items for analysis, you must first pay attention to the comparability of the geographical units, which may change over time. Metropolitan Statistical Areas, census block groups, and other geographic areas can be re-defined. Therefore, the subareas they include change as well. For example, the city of Plano, Texas is in Collin county and probably always will be. But Collin county once comprised an independent JTPA Service Delivery Area. Today, it falls within the North Central Texas local workforce development area. For this reason, you must know the exact geographical boundaries of the area being studied, especially when comparing the same data item over several years.

Every LMI data variable refers to a specific place and time, with a certain definition and reliability.

Time Referents

A "time referent" simply identifies the date associated with the particular data item. Everyone wants the most up-to-date data, but our data systems cannot provide current information on every data category. Like supermarket produce, the usefulness of some data items, such as the area's current unemployment rate, perishes rapidly. Other categories, such as the racial composition of an area, change rather slowly. To decide whether a data item is "fresh enough to use," determine the likelihood of change occurring over time to the information. In addition, consider the rate of change occurring in the overall market area. If the area is rapidly growing or declining, use more recent data to describe labor market conditions.

Data Item Definitions

A "data item" definition refers to how collectors described or categorized the data they gathered. People speak of being "unemployed," for example, but to actually measure the level of unemployment, you must have a more precise definition. Thus, the Bureau of Labor Statistics (BLS), which collects information on unemployment, operationally defined it to mean an individual available for and actively seeking work. If you worked even one hour for pay within the previous week, the BLS does not consider you unemployed—even if the work were temporary. According to the BLS, then, the fact that you do not have a job does not necessarily mean that you are "unemployed;" you must meet the other criteria. The BLS has implemented a household survey program in which enumerators ask a sample of households their employment status based on this definition. They ask the same set of questions every month to ensure that respondents' answers can be compared over time. This type of operational data definition forms the core of every labor market variable.

According to the BLS, if you worked just one hour in the previous week, you were not officially "unemployed."

You must be careful that the definitions of key data items have not changed over the time frame represented in the data set. For example, the 1980 Census of Population replaced the data item "head of household" with the item "householder," which has a substantially different meaning. Similarly, different data sources may define and measure terms such as poverty, handicapped, employed, income, Hispanic, etc., differently.

Data Accuracy and Reliability

What is the likelihood that the data actually represent a true picture of what they describe? In other words, what is their "data accuracy"? You must make an independent assessment of your data's veracity because it determines how much you can rely on the data. Errors that might be present in the data might involve coverage (e.g., did the survey include *enough* employers to get a true picture of what *all* employers believe?), sampling (e.g., did the survey include the right *mix* of employers included in a survey?), measurement (e.g., did the survey phrase questions in an appropriate way without leading bias?), and so on.

Most of the Census Bureau and BLS data sources include a careful description of such data limitations and provide a range of error estimates. These federal sources generally have high levels of reliability because of the rigorous statistical requirements associated with federal data collection. Other data, such as local employer surveys, may suffer from several of the limitations listed above and should be used with caution. You should always read the technical

notes in publications from which you extract data, even computerized data. Each data item begins with a definition, a collection methodology, and delineated strengths and weaknesses, even if the technical notes are no longer provided with the data item itself. Savvy data analysts realize that most data time series come from only a small number of survey efforts and can generally associate a particular data element with the agency that produces it. For example, the federal Bureau of Economic Analysis (BEA) predominately produces regional income and employment data, including *per capita* income by county, long-range regional employment projections, and government transfer payments. If you have questions about these types of data, contact one of the many BEA analysts in Washington D.C. or access their Internet web page for clarification.

Data Format

"Format" refers to the medium you use to view or apply a data item. Data come in many forms: books (hardcopy), computer tapes, microfiche, personal computer diskettes, and so on. However, all data are not available in all formats. You should know which format will work best for you, but be willing to take whatever format you can find. When collecting or analyzing data, you should consider future needs for these data, in addition to just the needs of a single project.

The data format determines the equipment needed for analysis. Computer tapes are essential when analyzing a vast amount of data, but they require appropriate computer hardware. Personal computer data are available by type of file format, such as *Lotus 1-2-3*, *Dbase*, *Access*, *Excel*, *ASCII*, etc. When requesting automated data files on diskette, you should know which file format is compatible with your computer's configuration and capability, and the software package you use. Increasingly, you may transfer or communicate data via the Internet or as attachments through e-mail. These methods let you acquire the data more rapidly but the same principles remain. It doesn't do you much good to pull down a *FoxPro* or *Access* database if you don't have the capability to open the data file. Similarly, if someone e-mails you a data file in a format that you cannot interpret, you may have gotten the data quickly but you have not improved your situation!

Make sure you request data in a file format compatible with your software and hardware.

The remainder of this essay consists of two major sections, one dealing with labor force concepts and the other addressing issues of industry and occupational classification.

Basic LMI Terminology

As discussed in the paragraph on data item definitions, every LMI variable has an operational definition for measurement purposes—even those terms that seem, on the surface, understood by everyone. You may be surprised to see that many of the following common terms have definitions slightly different from what you might imagine.

Population

The BLS defines the working-age "population" as all individuals 16 years of age or older. (Prior to 1967, 14 years of age was the lower limit.) Every ten years, the Census Bureau enumerates the total population of the U.S. and attempts to include every living person with a permanent residence in the United States. It estimates the July 1 population of the country for each year in between. Besides counting people, the Census Bureau gathers pertinent characteristics, including age. The BLS further classifies persons of working age as either non-institutional or institutional residents.

Labor Force

According to the BLS, the total "labor force" consists of non-institutionalized individuals 16 years of age or older, whether they are civilians or in the military. The pool of non-institutionalized civilians *outside* the labor force is more difficult to define. Basically, persons considered outside the labor force are those who do not have, or seek to have, a job. The BLS, for example, deems retired persons, homemakers, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle as outside of the labor force.

This measurement system does not accommodate every variety of personal situation. For instance, a teenager who might like to have a job but does not aggressively look for one, a welfare mother who would work if she could find a job that pays more than government entitlement programs, and a housewife who has an idea for a small business but lacks the initiative to start it are all potential workers—yet they do not compete in the labor market and the BLS excludes them from labor force numbers.

The Civilian Labor Force

While the labor force includes both civilian and military personnel, most labor market information considers only data related to the civilian population because the military is a unique and very specialized segment of the work force. If a planning endeavor involves military persons and/or jobs, inclusion of relevant military information would be essential, but, in general, the civilian labor force most interests employment and training planners. Usually, the civilian labor force refers to both employed and unemployed individuals.

Labor Force Measurements

You can evaluate the strength of the labor force in a variety of ways. A prime measure is the labor force participation rate (LFPR). It provides the proportion of persons in a given population who are part of the labor force:

$$\text{LFPR} = \frac{\textit{Labor Force (i.e., Civilian Labor Force)}}{\textit{Eligible Population (i.e., Civilian Non-Institutional Population, 16 Years \& Older)}}$$

Historically, the United States' labor force participation rate has hovered between 55 and 60 percent. In the 1980s, the rate rose to the mid-60s, reflecting the increase in the number of women entering and remaining in the labor force.

Another measure of interest in analyzing the potential supply of labor and the impact of tax policy, such as Social Security, is the employment-to-population ratio. The calculation of the "e/p" ratio resembles that of the LFPR, except that it divides the number of employed persons by the *total* population. Recently, the employment-to-population ratio in Texas reached near record levels of over 66 percent. This percentage means that 66 out of every 100 persons in the population works. The remaining 34 percent largely consists of children, retired persons, and institutionalized individuals.

Employment Definition

The percentage of employed people in the labor force signals the economic vitality of a country, state, county, or city. The more people employed, the healthier the economy. The BLS defines "employed" persons as those who worked for pay any time during the week which includes the twelfth day of the month; worked unpaid for fifteen (15) hours or more in a family-operated enterprise; or were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, weather, or related reasons.

Counting Jobs *versus* People

You should fully understand the data source before deriving conclusions about changes in employment or comparing data from different sources. This rule holds especially true when it comes to issues of counting jobs *versus* people because a person may hold more than one job concurrently. The standard BLS Current Population Survey counts people—both employed and unemployed. When an individual has more than one job, the Survey considers only the position at which the person worked the greatest number of hours. Other data sources, relying on employer surveys, count jobs, not people. Comparing findings from the two types of sources can cause confusion.

Similar definitional differences occur in employment counts depending on whether data collectors count employees at their place of work or place of residence. In some communities, most of the people actually live in urban or suburban townships and commute each day into the central city to work. Employment estimates can vary greatly depending on whether a person responds to a survey conducted at home rather than at work.

Full-Time *versus* Part-Time

The BLS classifies full-time employment as 35 hours or more of work per week; it views 34 hours or less as part-time. From a planning perspective, the issue of part-time employment takes on particular importance because an increasing number of newly created jobs have come in the form of part-time work. Such jobs seem to complement the changing American workplace and experts predict them to continue growing at an above-average rate through 2006, the farthest point for which they estimate such projections.

An increasing number of new jobs are part-time positions.

When individuals work in part-time positions, not out of choice, but because they cannot find full-time employment, they are considered "underemployed." Surprisingly to some, however, a large majority of part-time workers consist of people who voluntarily work fewer than 34 hours a week. Teenagers, students, women with small children at home, and older workers, for instance, often hold part-time positions in the retail trade and service industries because they prefer not to work full-time.

The Unemployment Rate

A myth associated with unemployment implies that if you do not have a job, you are unemployed. While that idea may be intuitively true, BLS's official definition of "unemployed persons" includes only those who were available for work but did not work for pay during the week that includes the twelfth day of the month. They must also have looked for work during the preceding four weeks. Workers on layoff and individuals who are waiting to report to new jobs within thirty days do not meet the BLS's criteria. Therefore, in the BLS's labor market terms, the unemployed are essentially the "unutilized, but effectively available labor supply."

Although analysts describe unemployment in many ways, the most familiar statistic is the "unemployment rate." This rate is the figure that the press frequently cites, economists struggle to predict, and politicians brag about when it is low and rationalize when it is high. This simplistic indicator serves as a "fast and dirty" way to evaluate the health of the labor force. Simply said, the unemployment rate represents the percent of the labor force that is not employed. To compute the unemployment rate, divide the number of unemployed persons by the number of persons in the civilian labor force, and multiply the result by one hundred.

People use the unemployment rate to evaluate the health of the labor force.

Since the unemployment rate calculation relies on other statistics, some "strange" or unintuitive things can happen in its interpretation. For example, the unemployment rate can actually rise without an increase in the number of unemployed persons if the size of the labor force declined. In this sense, the unemployment rate expresses the relationship between the number of unemployed persons and the size of the labor force. Before analyzing the unemployment rate across multiple time periods, you should also look at changes in the labor force and total employment to determine if they account for change in the unemployment rate.

Types of Unemployment

Many people talk about the unemployment rate as if it were a blanket description. In fact, economists recognize several types of unemployment—including frictional, structural, seasonal, and cyclical—and categorize them based on their causes and effects. In most cases, the overall unemployment rate includes a portion of each type.

Frictional

"Frictional" unemployment, usually of short duration, occurs when people float temporarily between jobs. In a sense, individuals choose it. A waitress who quits her job to look for a position that offers better wages experiences frictional unemployment. A person who spends time gathering information and investigating career options falls in this category as well. Most people spend some time after a voluntary job change deciding what kind of work they want to do, thus experiencing frictional unemployment.

Structural

"Structural" unemployment arises when a job/skill mismatch exists, such that the skills workers possess no longer meet employers' requirements. This type of unemployment is generally involuntary, as when a team releases a football player from his contract and the player has no other job skills on which to rely. Structural unemployment also occurs when politics or technology change. When a ship builder in a port city learns that the owners closed the only ship building facility in town because of governmental reductions in military spending, she experiences structural unemployment because she can no longer use her skills in that location.

Seasonal

"Seasonal" unemployment happens when jobs are available for only a portion of the year. Migrant workers, for example, follow the harvest of various crops but have little chance of working in the colder months. Individuals who work in retail stores during the Christmas shopping season similarly find themselves unemployed when the season changes.

Cyclical

"Cyclical" unemployment stems from "boom and bust" cycles in the economy. The oil business, for example, regularly experiences such fluctuations. Oil field workers who enjoy plentiful and lucrative work when the price of oil is up and suffer economic setbacks as the price drops undergo cyclical unemployment.

"Hidden" Unemployment

"Hidden" unemployment refers to the unemployment experienced by those who do not meet the BLS definition of unemployed. These so-called "discouraged workers" think, for a variety of reasons, that they cannot find work and stop looking. They include unskilled workers in the ghettos of many large cities who, lacking education and/or transportation, cannot find work and resign themselves to life on the streets or on welfare. Estimates of how many "discouraged workers" exist in the country are sketchy because the government does not count them as unemployed unless they actually seek work.

Underemployment

"Underemployment" occurs when a worker's qualifications exceed his or her job requirements or when he or she works fewer hours than desired. For example, economists consider a college graduate in microbiology to be underemployed when he finds no position in his field and works as a Retail Store Clerk instead.

Underemployment, according to labor market theory, does not represent an optimum allocation of human resources. The underemployed possess the skills to perform higher level work and generate higher commensurate wages. When these individuals do not maximize their workweek, economists view it as lost productive capacity for society as a whole. Certainly, negative consequences ensue for everyone personally involved in an underemployment situation. The employing company loses potential productivity when employees work beneath their abilities. For the underemployed worker, the negative effects are greater, including under-utilization (and the attendant frustration), lost earnings, and lost benefits, particularly the health insurance that generally only full-time workers receive. Indeed, the typical American part-time worker in the mid-1990s often earned less per hour than his or her full-time counterpart—and received fewer benefits.

Industry/Occupation Structure

Earlier in this discussion was an overview of the three different types of labor markets: geographic, industrial, and occupational. There are significant interrelationships among these labor markets. In fact, much of the analysis of occupational data is predicated on the relationship between an industry sector and the occupations that comprise that industry.

The Importance of an Industry

Generally speaking, industries consist of "groups of firms that engage in the production and distribution of homogeneous products and services within the same market." An analysis of an area's current economic structure generally begins with an overview of the type and size of industries in the local economy. You must understand the nature of the existing local economy before attempting to identify where expected job opportunities may occur. When looking for industries which might be hiring, there are several issues to consider, including the number of employers in the local area; what industries, by Standard Industrial Classification (SIC) code comprise the local economy; the number of workers each industry employs; what industries dominate the local economy in terms of output or as "export" or "growth pole" industries; and how much diversification exists in the industrial base.

The Importance of a Firm (a.k.a. Employers)

In addition to looking carefully at industries, you must also consider the local firms: individual establishments or employers within each industrial classification. The smaller firms, as a rule, are more often locally-owned and have strong community ties. They tend to operate in a local or regional consumer market, be service-oriented, create more new (i.e., non-replacement) jobs, have less in-house training capabilities, and have significantly lower job volume than their larger counterparts. Conversely, larger firms tend to have strong in-house training programs and internal promotion policies, resulting in fewer job openings aside from entry level positions. They do, however, have a greater volume of total job openings, caused mainly by expansion and labor turnover (i.e., replacement jobs). A workforce development business services representative, consequently, will likely find that the service needs of large firms differ from those of smaller companies.

The Importance of an Occupation

Once you have information on the industries and firms in a given location, you can shift your attention to the types of occupations or jobs these employers require. Occupations are defined by the particular set of duties and tasks required to perform them, and the same occupation may exist in many different industries. Demand for an occupation in a particular industry depends on the growth or decline of the industry as a whole, as well as changes in technology, business practices, and so on. Therefore, demand for a particular occupation will shift over time among industries, and the occupational definition will change to reflect current needs and technological advances—hence the interest in emerging and significantly evolving occupations.

While employers increasingly emphasize unique skill sets, LMI still relies on occupational classifications.

To meet the rapid pace of technological changes and market demands, employers increasingly demand workers with unique skill sets, as opposed to simply seeking individuals for specific occupational titles. This emphasis on projects, rather than positions, has begun to limit the usefulness of the concept of well-defined occupations. However, the current labor market information system still relies heavily on occupational classifications to describe changing labor market conditions and to guide educational program offerings. (See Chapter 11: *The Case for Career Majors* for more about the changing role of occupations.)

Industry Staffing Patterns

Because firms producing the same good or service require roughly the same kinds of occupational skills in their employees, economists can predict industry-based staffing patterns. A staffing pattern depicts the combination of worker skills, described through the concept of occupations, that a particular industry sector requires to effectively produce the industry's product or service. In essence, it offers a map of an industry's occupational needs. Staffing patterns enable you to estimate which occupations a given type of firm will need. (See Chapter 5: *Where Are the Jobs?* for more about staffing patterns.)

The Source of Staffing Pattern Data

The Occupational Employment Statistics (OES) program collects occupational data and generates occupational estimates on an industry-by-industry basis. To produce these estimates, it surveys employers and asks them to provide occupational classifications from a list of detailed job descriptions for non-agricultural wage and salary workers. The Texas Workforce Commission's (TWC) LMI department collects data from these annual surveys over a three year cycle, then processes and aggregates them to produce an industry/occupation matrix.

Industry/Occupation Matrix

Each industry hires workers in a variety of occupations that, when taken as a whole, we refer to as the occupational mix or staffing pattern. An industry/occupation matrix can include data on occupational staffing patterns by industry for all industries in the area under study, be it a city, state, or even a country. In addition to looking at the occupational mix for specific industries, you can also review the broader picture of how various industry groupings use specific occupations. An industry/occupation matrix can tell you, for example, what percentage of doctors, nurses, orderlies, secretaries, etc. the typical hospital needs to run smoothly.

Conversely, an inverse look at the matrix (i.e., starting with an occupation) reveals the industries that tend to employ persons within a particular occupation. Career Development Resources (CDR, formerly the Texas SOICC) used inverse matrices in two of its career information delivery systems, *Texas CARES* and *OSCAR*, because the matrices allow users to identify an occupation of choice, see the industries that tend to employ that occupation, and, finally, view actual employers within those industries. While staffing patterns of most industries remain relatively stable over periods of five years or fewer, changes in technology and the resulting changes in required skills can rapidly alter the staffing patterns of any industry. Such labor market dynamics explain why the Bureau of Labor Statistics repeats the OES survey every three years.

TWC's LMI department produces a partially updated industry/occupation matrix every year.

Job Openings in the Labor Market

After gathering data concerning existing jobs by industry and occupation, you can begin to look at how movement occurs within the labor market. Essentially, such movement develops in the market for the same reasons it exists in a single firm: growth demands and replacement demands. Thus, economists classify job openings based on how they are created.

Growth Demand

Growth—the addition of more workers over and above the number currently employed—stems from social, economic, and technological changes. For example, the addition of women in the work force has increased the need for more day care workers and labor-saving devices in the home, sparking growth in related industries. The growth of the elderly segment of the population has caused an increased need for health care services. The pressures of technological competition throughout the workplace have created newly emerging jobs that never before existed.

Economists disagree about what causes job growth in a given area. Some theorists argue that growth follows people (population growth). Those who subscribe to the opposite point of view suggest the prospects of employment lure workers and direct migration. This debate may be of the "chicken versus the egg" variety, but the evidence clearly suggests that the economy and employment grow most rapidly in areas that have a large influx of people.

Job openings come from either growth or replacement demands.

Replacement Demand

Replacement—the hiring of workers to fill positions once held by former or promoted employees—is the second source of job openings. It is a function of the level of labor turnover in an industry. Replacement demand varies by industry and by occupation. Some occupations, such as Fast Food Cooks, have higher levels of replacement demand because they pay relatively low wages and require relatively few skills. Other occupations, such as Firefighter, tend to have less turnover since most incumbent workers find the (usually high) salary, job requirements, and working conditions desirable. In general, more positions open up because of replacement needs than because of growth requirements in all but the fastest growing industry sectors.

Labor Turnover

Growth and replacement demands lead to measurable movement within a labor market. "Labor" turnover refers to the gross movement of workers into and out of employment with individual establishments over a certain period of time. To the BLS, labor turnover consists of "accessions" and "separations." When workers move out of employment (separation), openings are usually generated and new workers move in (accession). The BLS calculates accessions by adding new hires, recalls, and others, such as casual labor. Separations include those who quit, were laid off, died, retired, or left for other reasons, such as military duty lasting more than thirty days, permanent disability, failure to meet the physical standards required, and transfer to other establishments within the same company.

Labor Turnover Rates

Labor turnover rates can vary significantly by industry and by occupation. Industries such as construction, retail trade, and eating and drinking establishments tend to have higher turnover rates than doctors' offices, utility companies, legal offices, and government. Similarly, specific occupations have a wide range of turnover rates which correlate for the most part with pay scale, skills requirements, and length of training time associated with proficiency in the occupation. Highly-paid and skilled occupations, such as Dentist, Teacher, Ship Captain, and Electrician, have much lower separation rates than do Food Preparer, Retail Cashier, and General Office Clerk.

Coding Systems

Labor market concepts extend beyond definitions of terms. Even within a labor market concept such as "employment," coding systems exist to enforce some consistency of data collection and reporting. These systems enable analysts to compare certain data items, including employment, over multiple time frames. Because so many of the available data variables result from federal data collection programs, most of the standard classification systems or taxonomies are creations of the federal government, universally adopted by states and regions.

Data coding systems simplify the management and analysis of huge amounts of information. The rehabilitation community throughout the nation, for instance, uses the *Rehabilitation Services Manual* to classify disabling conditions. Unfortunately, labor market information uses multiple coding systems, which confuses, rather than simplifies, data management and analysis. While one coding system classifies most industry employment, occupational employment

and characteristics data are collected under at least eight different systems. The existence of so many different occupational coding systems complicates the process of performing occupational analysis, since users must be familiar with most, if not all, of the coding schemes to make full use of the available data.

Industry Employment Concept

The concept of "derived demand" explains why analysts review and code industrial employment. Derived demand is generally defined in terms of a firm's hiring requirement for particular skilled and unskilled workers as it depends on consumer demand for the goods and services produced. It is called "derived" because any job an employer creates results indirectly from the demand for some product or service. Moreover, future employment opportunities in an industry rely, at least partly, on the growth in demand for the goods and services the industry provides—no increase in demand, no demand for additional workers.

Clearly, analysts who want to predict derived demand need to classify and count the amount of products and services being created and sold within the economy. Counting every type of product separately, however, even if they were similar, would be an overwhelming task. To simplify the accounting associated with the creation of products and services, economists created the notion of an "industry." The concept of industry, then, allows us to identify and classify evidence about the economic livelihood of the nation, as well as that of smaller economic areas.

Industries are groups of companies that produce the same goods or services.

In an economic context, industries are groups of firms that produce essentially the same goods or services. Fords and Chevrolets may not look exactly alike but, as automobiles, they are sufficiently similar to be considered in the same category. Therefore, General Motors and Ford are both classified as employers within the same industrial classification.

Goods-Producing *versus* Services-Producing Sectors

All industries can be split into two sectors: goods-producing and service-producing. An economist once defined a goods-producing industry as one which makes anything you can drop on your foot! Only four major industries fall in the goods-producing sector: (1) Agriculture, (2) Mining, (3) Construction, and (4) Manufacturing. Everything else is service-producing. Service-producing industries account for over 82 percent of the Texas economy in 2000.

The SIC System

The Standard Industrial Classification (SIC) system is the most pervasive and comprehensive industry coding system used today. Developed by the U.S. Office of Management and Budget, the SIC system provides definitions and codes for industries based on an ordering of products and services, arranged at increasingly greater levels of detail. Specialists at the TWC use the SIC Manual to code employers and employment data for the statistical programs operated by the TWC. The SIC Manual was most recently revised in 1987 to better define more of the service-sector industries. Beginning in 2001, a new industry coding system called the North American Industrial Classification System (NAICS) will replace the SIC. NAICS has completely restructured industry data collection and reporting according to updated industry categories, such as computer software development. This system will also align the United States with industry classification common to other countries of the world, especially those covered under the North American Free Trade Agreement.

The most widely-used coding system for industries is the Standard Industrial Classification (SIC).

Confidentiality Laws

Governments cannot require individual firms to report information on their business activity and then release it, by firm name, to the world at large. This violates basic principles of privacy accorded to American citizens and corporations alike. Thus, there are certain restrictions to the level of information that is both collected and made publicly available. The smaller the geographic area and the more detailed the industry data, the more likely that a particular firm's information will be inadvertently disclosed. For this reason, government data collection is geared to collecting aggregate data in order to prevent information about any one firm from being released.

Occupational Employment Concept

Occupational coding systems serve to assemble and simplify detailed data on the skill and performance requirements of jobs. An occupation represents a group of jobs that require approximately the same body of skills. With hundreds of thousands of meaningful differences existing in the overall marketplace of jobs, you must recognize major classifications when performing human resources planning, job placement, vocational counseling, and economic development activities. Occupational employment data can generate insights into the types of jobs held by workers, the characteristics of the job duties performed, and the skills and abilities required to function in an acceptable manner.

How Occupational Coding Works

The exact tasks performed and skills used in an occupation differ to some degree from one job location to another. For this reason, similar skill characteristics are grouped together under the assumption that a worker who can perform one job adequately can quickly learn to perform another job in the same occupational category, regardless of the employer and specific work setting.

Occupational Coding Systems

Historically, government agencies developed their own codes which they felt best served their particular needs. They gave little consideration to matching these coding mechanisms because each department viewed its information and coding system as an independent database, separate from other government data collection agencies. Such attitudes have given rise to a host of unrelated coding systems that have confounded users for years. Today, occupational LMI is gathered and presented under a number of different classification systems, including: (1) the Occupational Employment Statistics (OES) program, (2) the Census coding system, (3) the Dictionary of Occupational Titles system, (4) the O*NET classification system, (5) Standard Occupational Classification (SOC) system, and (6) the Guide to Occupational Exploration codes.

With the 2000 version of the SOC system, the federal government tries yet again to standardize occupational coding.

There has been an increasing effort to make these occupational coding systems more compatible. In 1977, the federal government adopted the SOC system as the standard coding mechanism, but unfortunately, widespread adoption of the SOC did not occur as many agencies remained reluctant to change coding systems. For 2000 a new version of the SOC has been adopted by the federal government in another attempt to standardize occupational coding.

It is one thing to understand each of the above labor market terms and concepts individually. It is quite another to combine them into a fluid analysis. Perhaps one of the most complex analytical activities in regional economic analysis is conducting a comprehensive supply and demand study to assess regional skill needs.

Supply/Demand Matching Definition

Employment supply/demand matching is a technique for determining the equilibrium condition of employment. Analysts commonly use it to identify occupations which have labor shortages. Such occupations are prime candidates for workforce development skills training programs. In basic economic terms, the logic behind employment supply/demand matching asserts that if demand for specific occupational skills exceeds supply, job openings available at the prevailing wage rate should exist. Measuring supply and demand involves estimating a total available labor supply count by occupation, and numerically comparing it to estimates of labor demand *vis-à-vis* estimates of current job openings. Unfortunately, while the concept is very simple, our ability to measure both the demand and supply sides of this equation is far from perfect.

Supply and demand matching reveals areas with labor shortages.

Difficulties Involved in Calculating Supply/Demand Ratios

The major difficulty in calculating supply/demand ratios lies in understanding and measuring the various market dynamics, or "flows," which constantly affect the short-run stock of available supply and demand for workers. The process is further complicated by a lack of data for assessing certain key components of both available supply and demand and by occupational coding structure mismatches. Data deficiencies and the complexities of projecting both demand and supply for most occupations rarely allow for statistically sound conclusions on the balance between supply and demand for a specific occupation.

Labor Supply

Several factors make estimating labor supply a difficult endeavor. In general, labor supply estimates include persons entering the labor pool with skills acquired through a formal education process. Current data on education/program enrollees and completers are generally available from state education coordinating agencies. In many cases, an intermediary such as CDR publishes data compiled from several primary sources. Unfortunately, those data sources do not account for persons who received training on-the-job or through other means, new entrants or reentrants to the labor force, or underemployed individuals seeking a job change. Presently, analysts have no means of counting these people as part of the occupation-specific labor supply pool, and yet they exist in large numbers.

The current division between the world of work and the world of education further hinders the compilation of accurate supply data. Because "educational programs" and "occupations in the labor market" are two distinct concepts,

data which measure occupational demand and education program completers must be matched or "crosswalked." This imprecise activity may lead to errors in estimates.

Labor Demand

Those predicting labor demand face impediments as well. The best estimates of occupational demand generally have been developed using the two major categories of job creation: employment growth and replacement (labor turnover). However, projected demand must account for current job openings, and it is not currently possible to count the number of available job openings by either occupational or industrial category. Many positions do not appear on formal lists, and jobs often evolve to include parts of several jobs and are never reclassified. For simplicity's sake, projected occupational employment serves as a surrogate measure of projected occupational demand, despite the absence of an actual count of currently available job openings.

Supply-demand ratios roughly indicate relative occupational opportunity. Available statistics do not provide sufficient evidence to determine conclusively if there is going to be a shortage or surplus of workers in an occupation. Therefore, validation with other indicators, including the occupational unemployment rate and the absolute or percent rate of growth, is essential for job opportunity analysis. The more indicators you consult to confirm occupational growth or decline, including anecdotal validation from employers and other local stakeholders, the more likely you will get a true picture.

Analysts should validate supply-demand ratios to verify job opportunities.

More Art Than Science

Ultimately, you must decide which information is most useful to interpret and describe the regional labor market or most practical in counseling a client. Because labor market analysis involves the interactions of individual human beings making choices about where to live, where to work, where to go to school, what to study, etc., no economist or analyst will ever know for certain what the future holds for an entire geographic area. Piecing together information about industry trends, changes in technology, changes in consumer preferences, political policy, etc., to learn "where the jobs are" is much more of an art than a science! As such, those with greater skills and knowledge in economic analysis will generally be able to paint a clearer, more accurate picture of the economic environment. In closing, the following are some helpful concepts for everyone to consider regarding the "art" of doing labor market analysis.

Trend Analysis: A Difficult Task

"By definition, the future is estimated and not measured." This axiom from *Manpower Planning for Local Labor Markets* (Garth Magnum and David Snedeker, Olympus Publishing Company, 1974) illustrates the inherent imprecision of occupational trend analysis. Nobody has a true crystal ball and not even the best economists can actually predict future employment. The value of trend analysis is that it allows us to anticipate what the future holds based on historical observations. Still, many factors over which we have no control, such as data limitations and changing economic, demographic, political, or social phenomena make the future very difficult to predict—much less quantify. While much can be learned from past trends, the future doesn't always mirror the past.

Nobody ever knows for sure exactly how many jobs will be available tomorrow, or what skills they will require.

Timeliness of Data

Everyone wants the most current information available, but that may not be from last week or last month. "Current data" means the data that are *most recently available*, given the data collection process involved. In the case of Census data, for instance, the most current data can up to a decade old. More often, the most current data available may easily be for a period six months prior. Most automated information systems, such as *Texas CARES*, use many different data sources and so each data item has a different "schedule" for updating. Consequently, there is not one answer to either the question, "how current are the data in *Texas CARES*?" or "how often do you update the data?" The answer depends on the data item in question. Knowing the collection processes and schedules for data enables you to apply the data appropriately.

Putting the Pieces of the Puzzle Together

While statistical information provides valuable insights on change and trends in a labor market, it cannot analyze itself. Putting the pieces of the labor market puzzle together requires some statistical data, some knowledge of current events, and some common sense. Occupational projections, for example, are based on many assumptions. If some or all of the assumptions prove to be incorrect, the projections become invalid. You must follow local and national events and trends, in addition to using statistical data, to make fruitful policy decisions. Economics is one discipline where staying up with current events really makes a difference!

Chapter 2
The Impact of Globalization
The Effects of Global Capitalism on the Domestic Labor Market

By Richard Froeschle and Paul Covey

History suggests that Capitalism is a necessary condition for political freedom.
— Milton Friedman

You can't pick-up a newspaper or listen to the evening news these days without some mention of the "global economy." But what is so unique about this turn-of-the-century economy that causes the fortunes of the average American to be so inextricably linked to those of other nations? This essay explores the concepts of globalization, international trade, and the impact of capitalism as a universal economic system on the lives of Americans.

What Is Globalization?

During the last century, the world has experienced unparalleled economic advancements. Rapid changes in technology, communication, and transportation, coupled with falling political and trade barriers, has brought into the international marketplace unprecedented levels of foreign financial capital, skilled and unskilled workers, and production capacity. One might describe this phenomena as globalization, the increasing integration of markets brought about by a rapidly expanding worldwide flow of goods, services, capital, technology, information, and people.[1]

Regional markets now interact internationally.

To understand economic globalization, you must first understand the concept of capitalism as an economic system. In essence, profit maximization, or lowering costs and increasing revenues, is what capitalism is all about—making money for the entrepreneur, the shareholders, company management, and other stakeholders. In the past, political, technological, and geographic barriers stood in the way of advancing economic efficiency internationally. Today, many of these barriers, such as trade quotas and import tariffs, are becoming extinct. Regional markets, once limited by transportation or communications concerns, now interact internationally. We have truly entered the age of global capitalism.

The total production of goods and services in the world equaled over 19.6 trillion dollars in 1995. Of that amount, the United States economy represents roughly 27.8 percent or slightly over 5.4 trillion dollars. From the U.S. perspective, the "rest of the world" represents 72.2 percent of potential purchasing power. Moreover, of this foreign purchasing power the top ten richest countries accounts for 73.4 percent of worldwide economic production outside the United States. Given this enormous purchasing power being unleashed throughout the world, it is no wonder that U.S. companies want to expand into international markets. According to *Business Week* magazine, if trends in the international export of goods and services continue at the current pace, by 2005 global trade will constitute almost 28 percent of the world gross domestic product—up from 9.3 percent just 20 years ago. With the cold war over and free-market capitalism becoming the world's economic system of choice, U.S. companies now tap into market opportunities around the globe.

By 2005, global trade will constitute almost a third of the U.S. Gross Domestic Product.

There is a simple reason why U.S. companies both sell and produce in overseas markets: money. As Rudolph Schlais Jr., President of General Motors' China operations, explains, "General Motors is here because of China's growth. You've got a 15-20 percent growth in the rate of auto sales in China, and you've got 1.2 billion people. If you even look at one percent of that, think of how many people could buy a passenger car." Why just sell your products in Texas when you can also sell them in China? Moreover, why build them in the U.S. and ship them to China if you can build them in China for less? The obvious answers to these questions explain why the U.S. has plunged headlong into overseas markets.

Many corporations in foreign countries similarly exercise their ability to merge and form partnerships with other companies and extend their reach into other world markets. The French supermarket group Carrefour, for instance, recently acquired rival Promodes to create a retail conglomerate to compete against the globally-expanding Walmart Stores, Inc.

This trend toward globalization shows no signs of stopping. American companies such as Motorola expect to have as much as seventy (70) percent of their sales and their workforce overseas by the end of the decade. The rapidly-changing dynamics of global economies make understanding and predicting economic growth an increasing challenge for market analysts. Consider the following facts:

- Each day over 1 trillion dollars is traded in a global foreign exchange market that never closes.

- Technology is paving the way for a new information-based economy, changing the product mix of global demand and allowing even those countries without significant raw materials to become economically viable.

- Even small and medium-sized companies recognize the global nature of competition for market share and participation as no longer a choice but a necessity.

Now, one last bit of theory to set the final stages for interpretation....

Comparative Advantage: Every Country Does Something Best

As the world becomes more economically integrated, what governs the process of global economic development? Traditionally, the availability of raw materials has dictated what a given country produces. Each nation has within its borders certain natural endowments or "factors of production." These factors of production include labor, financing, land, and other natural resources. For example, a nation that has abundant, cheap labor relative to capital will specialize in the production of labor-intensive goods. Countries whose higher savings rates make capital more abundant than labor will specialize in the production of capital-intensive goods and financial services. Areas endowed with natural resources will produce resource-intensive goods, and so forth. Even within the U.S., comparative advantage explains why we produce grain in the Midwest and oil in Texas, rather than the other way around. *The optimal economic strategy for any nation is to identify and exploit its comparative advantage as efficiently as possible.* The most effective way to do this is through the free operation of factor and product markets and open competition among firms and with other countries.

Every country strives to exploit its comparative advantage as efficiently as possible.

Extended to the global economy, this theory implies that free movement of products and factors of production across national boundaries will naturally maximize efficiency and create a higher standard of living for each nation. With a varied supply of factor endowments (raw materials, labor, expertise, etc.) around the globe, each region can specialize in what it produces best at a comparatively lower price. This specialization creates an economic "win-win" situation for all trading nations. Simply put, why bother to produce (or invest in) a product domestically that you can buy much more cheaply from another country? The evaporation of U.S. domestic apparel and textiles manufacturing has become a classic example of the impact of comparative advantage.

Protecting the Domestic Market: Why Not Keep Making It Here?

"Protectionism"—the notion that a country must protect its markets from global economics—stems from the idea that globalization has gone too far and too fast, causing severe political problems in a given industrial country. Primarily, the protectionist argument points to a loss of jobs for domestic workers to foreign countries engaged in government-subsidized or unfair trade practices. In the U.S., critics contend that foreign countries impose quotas and tariffs on the American products they import while the U.S. provides an open marketplace to outsiders. Many politicians and labor activists share this opinion. Remember Ross Perot's warning about the "giant sucking sound" of job loss to foreign workers? And, of course, labor unions and many other non-governmental organizations feel the protection of domestic industry, and its jobs, are paramount to the nation's economic survival.

While many take the theoretical arguments espoused by protectionist economists very seriously, others disagree. Adrian Wood, for instance, argues that the main cause of the deteriorating job situation of unskilled workers in developed countries, such as the United States, has been expansion of trade with developing countries.[3] Other economists respond that, despite the benefits of open trade borders, including social diversity and challenges to domestic industry growth, maintaining a more controlled trade environment insulates jobs for domestic workers from foreign competition and promotes social cohesion. This argument implies that technology, as a driving force of economic growth, is also a threat to general social comfort and cohesion.[4]

Protectionists blame free trade for deteriorating job situations in the U.S.

Some countries have translated protectionist theories into public policies. Japan, for example, has historically maintained diligent restrictions on imports as a way to keep all Japanese workers employed, thus protecting the family and social fabric of the country. Likewise, Germany limits immigration by providing temporary work visas to foreign workers during times of economic growth, but rescinding those work permits when the economy tightens. This strategy of controlling immigration seeks to keep German citizens continuously employed and thus preserve their social infrastructure.

Protectionist behavior may offer the benefits these countries perceive, but it generates costs as well. Trade restrictions limit availability of products to domestic consumers, elicit reprisals from other countries in terms of quotas and tariffs, and risk creating complacency among domestic industries who face no challenges by international competition to constantly improve.

Regardless of the policies of other nations, protection from competition would be a move in the wrong direction for Texas and U.S. industries. Most businesses and economists see liberal trade, including rapidly expanding off-shore assembly industries, as a principal engine of rising living standards in industrial, as well as developing, countries. Tariffs and import quotas—key tools of protectionists—increase the costs of production and of living domestically by raising prices for consumers. This brand of intervention artificially inflates prices on protected goods such as steel and sugar, for example. In the long run, it hinders the economic growth and social mobility of developing and developed countries alike. Most economists note that protected industries are far less likely to make noticeable productivity improvements, and productivity is crucial to employment growth. History has shown repeatedly that competition, not protection, breeds innovation.

History shows that competition breeds innovation.

Even if protectionism helped the economy, such policies would not last. Guarding our borders in the 21st Century could be nothing more than a temporary option. Given the current explosion of global capitalism, all protected industries will face the realities of global competition sooner, rather than later. Inevitably, competitive firms will begin to carve out new market niches for themselves in order to stay in business and adapt to frequent changes in the international marketplace.

Global trade may ultimately benefit workers, contrary to protectionist fears of losing domestic jobs. The import/export competition clearly has the potential for creating considerable volatility, especially in the job market. Nevertheless, an efficient global economy will create more and better paying jobs, for more people, in the long haul. Research shows that, on average, export jobs (i.e., jobs in industries whose products are largely exported to other countries) pay much higher wages than similar jobs that produce exclusively for domestic consumption. In addition, workers who lose their jobs due to increased competition from the world labor market may be hired on at new jobs leading to higher wages than they received before.

To the benefit of most, global competition likely leads to productivity growth and rising incomes for many new labor force participants, especially for workers in developing countries who might otherwise have limited employment possibilities. Similarly, American workers will realize the need to update their skills frequently to remain marketable in the global labor pool and perhaps trigger additional investments in the sciences, mathematics, and computer science specialties that will drive knowledge areas in the new century.

We have already touched on several production challenges posed by global competition, including the potential effects on American jobs. More explanation of how these challenges may influence where firms locate production facilities and how unequal labor costs around the world can influence such decisions follows.

The Global Economy and the Supply and Demand for Labor

Labor demand is closely tied to many factors, including the demand for a firm's products or services, the application of technology, the cost of labor (wage rates), relative costs of other factor inputs (land, borrowed money, etc.), and the combination of business practices designed by management. Historically, a change in market wage (or change in demand for products or inputs) meant that a firm would cut back on the number of employees needed to the extent that the company could use cheaper inputs such as machines. Within the environment of global capitalism, technology implementation can often replace labor with cheaper and more productive mechanical automation. Inexpensive, lower-skilled labor from elsewhere in the world, such as Mexico or the Pacific Rim, can also replace domestic workers. Employers in the 21st Century will have access to a global supply of workers and rapidly advancing changes in technology. In this environment, higher priced workers must demonstrate their worth contributing more creative, value-added productivity.

The biggest cost for most companies is labor, and one of the most significant factors affecting facility location is the availability of a skilled workforce at a competitive price. How firms choose to produce a product or service and where they locate their production facilities or offices will depend on the locations of their global customers and, potentially, access to a global labor force. Expansion of workers or technology may not occur exclusively in Texas or the United States. Remember, the goal of capitalism is not to employ more workers but to maximize profits! What rational profit-seeking firm is going to pay an American worker $25 an hour plus benefits to do the same job a worker in the Republic of China would do for $25 a week?

The availability of a skilled workforce at a competitive price significantly influences where companies locate their facilities.

Even firms that remain stateside will choose their sites carefully. Companies always have the option to relocate to another state with lower wages, a reduced tax structure, or to utilize overseas production facilities while management remains located domestically. This location decision is often made in order to stay competitive and to maximize profits by reducing domestic labor costs. Competitive firms realize that they can benefit by hiring more workers at a lower wage rate, or automate their production, and increase profits.

As financial capital markets become global, with investment dollars moving seamlessly across the borders, labor markets grow increasingly dysfunctional, especially in the areas of wage inequality and instability. Texas already has seen a growing earnings inequality, where high skills mean higher wages and low skills increasingly lead to lower wages and limited career opportunities. In fact, earnings disparities between those with marketable knowledge and skills and those without are dividing the U.S. into a two-tiered social infrastructure. A global economy that supports the movement of traditionally high paying American manufacturing jobs to other countries only enhances this trend. American workers must acquire the advanced academic, higher productivity skills necessary to justify the wages they seek.

The effect of global relocation is not uniform. At present, globalization does not affect every American job, and some companies find that relocating to foreign facilities to lower labor costs has some drawbacks. Some firms choose not to relocate because they notice a significantly lower level of productivity in less developed countries. As a recent article in the *Harvard Business Review* noted, "the low wages available in many countries, after adjusting for productivity, lose their attraction. When investing in developing countries, world-class manufacturers tend to locate their factories in the areas that have the most advanced infrastructure and workers' skills rather than in the areas that merely offer the lowest wages."[4]

So, if low wages don't necessarily mean low production costs, and if successful developing countries move away from labor-intensive production lines, why do some people feel concerned about globalization? Why do protectionists believe that the abundant supply of low wage labor in developing countries will take jobs away from workers located in developed countries such as the U.S.? Those who think globalization has become excessive tend to link massive imports of labor-intensive goods, such as apparel, to phenomena such as high unemployment in Europe, and lower, stagnant wages for unskilled workers in the United States. They argue that increased labor-intensive imports have contributed to the drop in the share of manufacturing employment in industrial countries since 1970 (see Table I).

Table I
Percentage of Employment in Services

	Manufacturing	Services
1970	30%	70%
1990	23%	77%
2005 (est.)	18%	82%

Source: Bureau of Labor Statistics

The Limits of Globalization

The subject of manufacturing facility location generates a lot of newspaper headlines but the U.S. economy contains more than manufacturing—especially from an employment perspective. In any case, the dismay about the "declining" manufacturing sector seems premature. While overall manufacturing employment in the U.S. represents a declining share of the total (as Table I illustrates), U.S. manufacturing output, production, and revenue have steadily increased. As discussed earlier in the section on comparative advantage, declining employment in domestic industries may occur when the work moves to another country with more conducive wages, natural resources, and business climate. In theory, the U.S. has an opportunity to retrain manufacturing workers and apply their skills in a more viable sector.

Remember that businesses constantly seek to reduce costs. Labor may be the greatest cost, but it is not the only one. Business conditions can also (unnecessarily) push up costs. These conditions include weak financial systems, embryonic capital markets, inefficient transportation networks, untested judicial systems, high levels of crime, etc.—many of which exist in developing countries, hence their poor productivity. In the end, the real total costs of the goods they produce can be quite high.[5] Thus, simply having a supply of cheaper labor is not the only consideration in the job relocation equation.

Cheap labor is not the only reason companies relocate.

Of the U.S. regions that contain the industries most affected by global trade, many may undergo periods of structural unemployment. That is to say, workers may experience a mismatch between their skills and the hiring requirements of available jobs. Just as there is little demand for blacksmiths or covered wagon builders in the year 2000, many occupations that exist today will not exist in 15 to 20 years. The workers in these fields will ideally shift into new occupations with the aid of training programs and a proactive view of the global economy. Without acquiring new skills, workers who lose jobs to global competition will find limited employment and earnings options.

Not all jobs will be equally affected by the progressive removal of global trade barriers. While trade in services such as banking, tourism, and computer software is increasing, many services do not lend themselves to international trade. Locally-specific jobs in fields such as food service, law enforcement, and medicine will experience fewer effects of global competition in the coming decades. In fact, the Bureau of Labor Statistics' projections of the twenty fastest growing occupations in the United States between 1998 and 2008 (listed below) include many which serve primarily domestic markets, making them generally less affected by global competition.

Top 20 Fastest Growing Occupations in the U.S.

(Ranked by Projected Growth 1998-2008)

Computer Engineers
Computer Support Specialists
Systems Analysts
Database Administrators
Desktop Publishing Specialists
Paralegals and Legal Assistants
Personal Care and Home Health Aides
Medical Assistants
Social and Human Service Assistants
Physician Assistants
Data Processing Equipment Repairers
Residential Counselors
Electronic Semiconductor Processors
Medical Records and Health Information Technicians
Physical Therapy Assistants and Aides
Engineering, Natural Science, and Computer and Information Systems Managers
Respiratory Therapists
Dental Assistants
Surgical Technologists
Securities, Commodities, and Financial Services Sales Agents

As Table I and the list of occupations above demonstrate, the U.S. is clearly in the midst of a major shift from the manufacturing sector to the service-producing sector. Increased employment in the services sector has many benefits. Domestically, services drive job growth for many regions of the country. In addition, given the broadness of the service sector, the majority of workers displaced by global competition eventually will find job opportunities in services that pay the same or higher level wages than manufacturing. Where service jobs once meant Fast Food Servers and Hair Dressers, the service sector of today includes many high paying jobs in software development, sales, communications, engineering, marketing, health services, and so on.

This change to a service economy has increased market volatility, markedly affecting both job creation and destruction. Under normal circumstances, a majority of product markets experience employment changes in the short run. Numerous factors, among them weather, final demand, and consumer tastes and preferences, determine job creation, growth, and destruction. Based on observations of the past several years, however, economists forecast continued global job growth and low unemployment. In this new era, innovations in technology development and application, changing product markets, revamped business practices, and changing capital for labor substitution patterns will

boost the pace of job creation and destruction. Such global labor market volatility will make continuous learning and life-long skill acquisition increasingly important.

Wages and Income Distribution

We have previously mentioned the impact of a global labor supply on facility location and wage equality. According to the Economic Policy Institute, real median wages for the American worker (adjusted for inflation) actually rose 2.6 percent between 1996 and 1998. Wages for those in the lowest 20 percentile rose by 3.6 percent in this same period. These increases mark a short term reversal from the past decade, which witnessed an actual decline of real wages by 0.8 percent per year between 1989 and 1996. While economists disagree on whether this trend will continue, classical economic theory suggests that a consistently low unemployment rate, which the U.S. currently experiences, should lead to greater wage equality, all things remaining equal.

But, in real life, all things do not always remain equal. Other factors influence wages. The *possibility* of firms using low-cost labor in other countries has kept wage increases small, especially for lower-skilled workers. Union groups, fearing relocation or loss of jobs, have spent greater energy on the issue of job security than on wage increases. While analysts expect upward wage adjustments to continue in certain industries during the short run, no one knows whether the corporate need to hold costs in line to maintain a global competitive market position will offset the need for skilled workers, who are already in short supply. Indeed, international market competitiveness probably poses less of a threat to workers than do domestic corporate downsizing, union busting, deregulation, and technological advances. The conversion of high wage jobs in the airline and trucking industries to lower wage positions after deregulation illustrates this point.

Free trade threatens U.S. workers less than corporate downsizing, union busting, deregulation, and technological advances.

Future Business Practices in the New Economy

Economic forecasting only paints a shadowy picture of future trends. Most economists agree that the 21st Century will unfurl tremendous opportunities for the entrepreneurial spirit. Still, what benefits one industry can often hurt another, and the U.S. and Texas will feel *all* of the effects of markets around the globe as they expand and contract to changes in supply and demand. Recently, for example, currency devaluations in Asia, Russia, and Mexico disrupted international capital markets—a reminder that U.S. monetary policy

has to consider the results of unpredictable future trends overseas. They also affected the U.S. job market. When the Mexican peso dropped in value in 1996, the subsequent decline in border retail sales demonstrated how interrelated the world financial community and the domestic labor market really are.

In the new global economy, firms from every country will have worldwide choices in their supply of inputs (including labor) and new opportunities in the emerging market for goods. The rules of the past, like many of the theories underpinning Keynesian economics, will no longer completely apply to all competitive firms. U.S. production, for instance, will become more and more "transplantable" as goods-manufacturing shifts from sectors traditionally dependent on proximity to raw materials to "foot loose" industries such as electronics and scientific instruments. The already fierce competition for market share in flooded industries and among multinational corporations will escalate. There is nothing like increasing the number of hungry people at the table to start a rivalry over dessert!

Clearly, technological advancements often fuel the fire of inter-linked economies. Who can deny that electronic commerce, personal computers, and the Internet are changing the way consumers and producers do business? Companies such as Amazon.com employ Internet technology and concepts such as just-in-time inventory control, demonstrating an entirely new approach to profitability through advertising revenue. (Amazon.com, for instance, currently operates at a loss, despite its popularity with investors—a new approach to profitability indeed.) Rapid proliferation of telecommunication technology and declining communication costs further advance economic integration. Members of the World Trade Organization and Organization for Economic Cooperation and Development are developing a Global Information Infrastructure proposal to further decrease the cost of sharing information abroad.

Technological advancements in communications and other areas fuel interlinked economies.

In the New Economy, international financial institutions will remain an important part of the economic framework. Direct foreign investment is one of the most powerful forces in economic integration of the planet, as developed countries pump money into developing nations to expand production capacity. The U.S. alone invested over 860.7 billion dollars in other countries in 1997—an increase of 23.1 percent since 1995. These days, trade often follows investment in infrastructure, technology, and education.

Think of it this way: If your fastest growing market—or potential market—is in a foreign country, why not expand production capacity closest to your customers? In addition, putting wages in the hands of foreign workers potentially helps them afford to buy your product (an underlying principle of the "social contract" first promoted by Henry Ford). Any forecast of future trends for a region or a business must consider these direct factor investments. Just because the demand for cars is on the rise does not mean companies will continue to manufacture or sell them exclusively in the United States.

Changing business practices, while economically profitable, may have negative effects on the social fabric of the country. Richard Sennett, in his book *The Corrosion of Character*, suggests that the practices of mass customization, the project orientation of work, and competition in global markets come with a steep cost to humanity. Writes Sennett, "And as we move from island to island in our corporate archipelagoes, friendships and community ties take on a 'fugitive quality.'" Sennett is not alone in his thinking. Many have written about the social isolation of modern life, the decline of the "family" feelings once associated with certain company environments, and the potential for despair in workers who feel valued only for their contributions to the bottom line. The need to make workers happy is not one of capitalism's central philosophical tenets.

Changes in the world economy directly affect the personal lives of Americans.

What Is the Role of the Government in the New Economy?

So far, this essay has focused on the effects of unfettered global capitalism on private business practices. But what role will the public sector play as the rest of the world adopts modern capitalism as their economic foundation? Government must address issues related to trade policy, job training, immigration, e-commerce regulation and taxation, among others.

In a free market environment, government lets markets operate without barriers to the free flow of goods, service, and capital. Intervention should occur only when market failure threatens, and then only in a limited manner. In the New Economy's *laissez-faire* model, the "hands-off" approach to government, the public sector will increasingly serve as liaison for facilitating trade and promoting economic partnerships with foreign markets. Governments—at all levels, including the international—will create and enforce laws that protect intellectual property rights and copyright provisions. In global competition, technology enhancements and product innovation will be key to revenue generation and job creation. Ownership of ideas and protection of products will be pivotal to any capitalistic system and these rights must be protected by the governments of the world.

The increased volatility in job creation and destruction associated with globalization means that the government will continue to sponsor retraining programs. Although economists predict U.S. unemployment to remain low for the foreseeable future, training and assistance programs for dislocated and unskilled workers will help them maintain their economic mobility. Indeed, the acquisition of new skills and knowledge will be critical to keep American workers globally competitive.

Government will also play a role in the New Economy through its immigration policies. Immigrant workers represent a potentially large supply of labor and their importance will increase in the future. By 1998, twenty (20) percent of all U.S. residents without a high school diploma were foreign-born. If immigration policies continue to focus on family unification rather than filling education or skills shortages, that percentage will likely rise. In fact, many analysts believe that U.S. immigration quotas will increase substantially every year to promote domestic labor force growth, which declining U.S. birth rates has hampered.

Public policy that fosters the admission of large groups of relatively unskilled workers into the U.S. has mixed results. On one hand, general labor shortages have almost forced many businesses to employ illegal immigrants just to meet current levels of consumer demand. A relaxed immigration policy would help these employers. However, should the economy slow down, an influx of largely unskilled persons potentially would increase the costs of social services, generate added competition with U.S. citizens for available jobs, and theoretically intensify the burden on the domestic economy to raise worker productivity just to maintain the current standard of living. (The personal *per capita* annual income in Texas in 1998 was $24,957.)

Government policies for e-commerce, currently in debate, will determine how business is done in the 21st Century.

The development, regulation, and taxation of electronic commerce and other technology advances comprise another area of government impact. Technological innovation will greatly change how business is done in the 21st Century. Currently, millions of business transactions occur over the Internet each day. The entire scope of electronic commerce, or "e-commerce," is being hotly debated among state, local, and federal policy makers. Major issues of e-commerce include (1) ethical concerns, such as personal privacy protection; (2) the use of technology to implement government programs, such as job training and social services; (3) continued research support for establishing common telecommunications standards and improved computer infrastructure; (4) taxation procedures, such as "use" taxes for e-mail and web sites, and taxation authority, i.e., which entity has the right to tax; and (5) antitrust litigation to maintain and enforce fair and open competition in the marketplace.

Finally, the government seeks to maintain social harmony in an environment that fosters instability. One of the greatest concerns of American citizens is the proliferation of technology throughout the world, enabling international companies to outsource work tasks to lower-cost labor in other regions of the world—effectively exporting American jobs. Rising social inequality and income disparity between those with technological prowess and those without has the potential to create serious social conflict in this country and abroad. Indeed, the yet unforeseen impacts of technology proliferation and the vast potential of the Internet as a growth engine of the global economy will pose many tests and opportunities to governments. As this brief introduction indicates, public policy makers face difficult challenges as free trade and global competition become more ubiquitous.

How Will Globalization Affect the American Worker?

We have already touched on some of the key issues that affect American business and government in this age of increased global commerce. We now turn to issues affecting the average American worker. These include education and training, working conditions, and an aging population.

If nothing else, global competition means that American workers must invest in their own education and skills-training. Domestic labor markets will demand—and well compensate—highly educated workers who can create and apply skills required by newer technologies. Demand for low-skilled workers, on the other hand, will vary from region to region. But the global supply of such workers is so vast that jobs for them will either continue to move from the U.S. to low-wage countries or will be available at increasingly lower (depressed) wages domestically. *Workers who can adapt to changes quickly—i.e., those with the best education and training and the ability to learn quickly—will fare the best in the economy of the new century.*

Companies will offer incentives to retain core workers in the face of labor shortages in the 21st Century.

American workers may benefit from changed work environments and conditions as businesses that remain in the U.S. adapt to meet the demands of the global economy. Many analysts believe that recent trends among the more progressive firms offer a glimpse of what workers can expect in the 21st Century. In the face of labor shortages, firms will implement innovative strategies to retain and motivate core workers. They will increasingly offer workers the opportunity to "telecommute" from home, for instance. Indeed, many modern jobs will not require workers ever to be present in the "workplace." Equipped simply with a computer, a fax modem, and a telephone line, workers can stay connected to the office but realize many

benefits from being at home. The advantages of telecommuting for workers include more flexible hours, no commuting, and the ability to care for young children or aging parents while covering their workload.

To compound the current skilled labor shortage problem, the American workforce is getting older. By the year 2020, almost twenty (20) percent of the U.S. population will be over 65. As the "baby-boom" generation, which makes up the largest single age cohort of the U.S. population, retires, the American workforce risks losing much of its collective knowledge and productive capacities. Such a situation could potentially hamper the competitiveness of U.S. industry in the global economy.

Unlike previous generations, however, many "baby boomers" will continue to offer skills to the labor market well past retirement age—either by choice or financial necessity. Longer lifetimes have already begun to affect the average retirement age in the private sector, and government programs, such as Social Security, are making similar adjustments. Many factors serve to encourage older workers to postpone retirement. Some well-educated "boomers," for instance, will delay retirement or begin new careers because of the attractive wages offered to skilled, experienced workers.

These older citizens with historically high levels of disposable income will represent a significantly large consumer market, creating many new occupational opportunities for American workers. Occupational demand will likely expand in areas relating to geriatric health care, travel and leisure, residential accommodations that cater to persons in their retirement years, and the production of consumer goods that make daily life activities easier for older citizens. The demand for goods and services associated with these preferences will affect occupational skill needs in this country and the degree to which the U.S. produces such products and services or imports them from abroad.

Retiring "baby boomers" will affect the labor market by vacating positions while increasing demand for certain types of services.

How Will Globalization Affect Texas?

With its economic reliance on oil and gas and its close proximity to Mexico, Texas has been more accustomed to global economic forces than most other states. Joint ventures between Texas firms and Mexico created the concept of the *maquilladora*, for example, as a "win-win" scenario where inexpensive Mexican labor couples with U.S. management expertise in a free trade zone environment.

Analysts disagree on the effects of NAFTA, the North American Free Trade Agreement that eased trade with Mexico. Texas has been right in the middle of the debate over whether the legislation has led to more job creation or job loss. The "report cards" on the effects of NAFTA range from "A" to "F," depending on the perspective taken. Clearly, liberalized trade with Mexico has both stimulated some sectors of the Texas economy and caused job loss in others. Apparel plant closings in El Paso, for example, left behind dislocated workers with skills not easily transferable to other positions. On the other hand, increased exports to Mexico have stimulated retail employment—the degree to which is still under debate.

NAFTA has brought the global trade issue to Texas' door—with mixed results.

The mixed effects of NAFTA on the Texas economy reflect in a microcosm the impact of liberalized trade on a global front. Texas exports reached a level of 86.9 billion dollars in 1998, growing by 64 percent since 1993. While oil and gas once dominated Texas exports, today the export of electronics, industrial machinery, and chemicals takes center stage. Combined with growth in the domestic marketplace for these goods, growth in these industries signal job opportunities for Texans.

Not all of the growth in the Texas economy has been due to indigenous investment. Direct foreign investment—the dollar value of physical plants, equipment, and inventories owned by non-American citizens or corporations—has expanded by 17.2 billion dollars since 1990 to a new high of 72.3 billion dollars in 1996. Marked increases in international border crossings of rail and trucks and growth in international air passenger traffic at many of the state's major airports further substantiate the degree to which Texas is becoming an important citizen of the global economy. In the face of a rapidly changing world economy, such phenomena clearly mean that we Texans must continue to embrace the world beyond our borders.

While analysts would not attribute it solely to the global economy, the economic vitality of the Texas economy over the past decade is undeniable. Personal income of Texans (in constant real dollars) has grown steadily since 1991 and is expected to continue to increase. Business income in Texas is growing in real terms and more firms are relocating or opening branch operations in Texas, as well. Since the beginning of the most recent economic expansion, the Texas economy has grown faster than the national average. Since 1991, Texas has enjoyed an average 3.91 percent annual economic growth rate, compared to the U.S. rate of approximately 2.84 percent (as measured by real Gross State Product and real Gross Domestic Product).[6] The Texas business climate, emerging consumer markets, available labor force, proximity to an expanding Mexican marketplace, and geographic location in

roughly the center of the country account for some of the reasons job growth in Texas has out paced the U.S.. In addition, the state's tax structure, featuring the absence of a state personal income tax, has acted as a tremendous stimulant for business location and population and employment growth.

The future of Texas economic growth in both domestic and global marketplaces may continue at the same rapid rate. Despite significant growth in the population, however, for the last seven consecutive years employment growth has outstripped labor force growth in Texas, causing an acute labor shortage. In earlier periods, such job growth stimulated in-migration to Texas from other states. This time, however, widespread job growth across the country has limited worker movement. The result has been general labor shortages in all sectors of the Texas economy. Moreover, the Texas employment-to-population ratio, the number of persons working as a percent of the total population, has hit record levels above 66 percent—well-exceeding the national average. Given a leveling of the increase in female labor force participation rates, *Texas may be reaching a point where there are simply no more people to fill even the most basic jobs.*

Texas may reach the point where there are not enough people to fill even basic jobs.

This general labor shortage may cause employers to expand operations outside of Texas or postpone expansion altogether, fearing an inability to fill job openings—especially in specific skilled occupations. Anecdotal evidence suggests these are distinct possibilities. Certainly businesses that are considering moving to Texas may think twice before relocating in the state. Dell Computer, for example, recently cited labor availability concerns in the Austin area as the reason for expansion of their Tennessee production facilities. While Texas may be in a better position than many states because of its overall younger, more diverse population with higher than average growth rates, the future competitiveness of the state in the global marketplace may come down to the availability of both the general labor force and the better educated and skilled workforce.

The Effects of Globalization on Education

In order for Texas to remain an attractive market for doing business, the importance of quality and pertinent education cannot be overlooked or overstated. Evidence clearly shows that early education is the most cost-effective method for preparing the next generation for tomorrow's economy in Texas and across the country. Students must develop skills in reading, writing, math, science, reasoning, and computers to compete effectively and successfully in the 21st Century workplace. The educational system must set higher academic standards for graduating students to maintain an educated, skilled workforce.

Presently, many employers struggle with an inadequate supply of technically-trained workers. To keep these companies located in the U.S., America must produce highly skilled workers within its borders. In essence, students must learn how to learn in order to adapt to diverse employment situations. Secondary schools should place more emphasis on School-To-Careers programs which give students a sense of the world of work, show them the relevance of academic subject matter, and teach them a marketable trade or skill in addition to providing a strong academic foundation. In addition, schools need to make available and distribute more information about current trends in job markets and educational opportunities. Finally, schools should adapt classes and programs to suit the needs of the evolving economy and the current occupational and skill demand at both the state and national level. (See Chapter 11: *The Case for Career Majors* for details about an education system that better prepares students for the world of work.)

The global economy has fostered increased integration between educators and employers.

The higher education system is not immune from the effects of technology and globalization, either. Partnerships among universities, colleges, local economic development organizations, and, to a larger extent, corporations are flourishing. Universities benefit because these partnerships help them integrate their roles as academic researchers and centers for technology application and enterprise. The partnerships also offset stagnant or non-existent government funding. Firms benefit because they can apply the latest technology innovations being created and researched among university departments. Similarly, many community colleges now coordinate with area employers to provide the necessary programs for skill certification within given industries.

Universities and community colleges may face other challenges in the New Economy, as well. As some employers take more responsibility for training and educating their employees, traditional institutions of higher learning must compete to provide services. Today, the private sector offers an estimated 1,600 external company-sponsored education and training programs nationwide and that number may grow.

While the future of education providers is uncertain, one fact is clear. Labor market information must be more effectively disseminated to high school students, college students, and those already participating in the labor force. *Workers need information on the evolving workplace so they can make wise educational and career decisions.* Have you noticed a trend here yet? Once again, the more education, knowledge, and information you can get your hands on, the better off you will be in the New Economy.

Concluding Remarks

The challenge ahead for America and Texas is to ensure that all segments of society benefit from globalization and that job expansion in high skill, high paying industries offsets the destruction and decline in other sectors. Every nation, region, business, and individual has to realize the risk of falling behind the *status quo* in the New Economy. Standing still is not an option—neither for business nor for individual workers. Even smaller communities and regions will eventually lose their insulation from global forces of change and economic fluctuation.

Many workers still long for the days of stable employment we once called "job security." But the time for job security has passed. Those who seek high earnings for their labor must continually acquire new skills and adapt those skills to fit varied working environments. They must constantly compete to obtain and keep jobs and to identify new job opportunities. In essence, the workers of today—and especially the workers of tomorrow—must engage in a perpetual and successful job search. The following reminders serve as guidelines for coping with the ever-changing market conditions of the 21st Century:

- Prepare for change by staying in tune with current trends, such as workforce demographics, growing and declining industry sectors, changing tax structures, educational choices, economic development incentives, regional marketing, local wage adjustments, as well as changes in state, national, and global economic indicators. Staying abreast of industry resource information, emerging technology, and education methods empowers employers and employees alike.

- Remain proactive; it is the key for staying competitive. Use your study of trends to plan your career goals and market strategies. Move into the most auspicious positions rather than wait for your current area to become obsolete.

- Remember that educated and highly skilled workers have more employment choices and options.

While many aspects of the future economy will remain uncertain, state policy makers, employers, and education and workforce agencies can do a great deal based on what they already know. Current economic data are vital as we build our knowledge base, interpret the data, and apply our knowledge to the challenges at hand. Every sector of the economy must play a key role.

Twentieth Century educational institutions, workplaces, and workers must embrace the Twenty-first Century business and economic paradigm. It is truly a different way of looking at the world.

While it is true that successful, sustainable growth partially depends on national policies that promote economic stability, trade, investment, and education, we face a global tidal wave of unfettered capitalism that rolls along largely independent of public policy—including that of the United States. The better we understand global economics and how it affects our lives, the more likely we are to prosper—as individuals, as a state, and as a nation. If change truly is synonymous with opportunity, the United States has a tremendous chance to take the reigns of this new global economic juggernaut and expand wealth and employment opportunities well into the new century.

The more we understand global economics, the more likely we are to prosper.

NOTES

[1] Tonelson: International Monetary Fund, 1997.

[2] "How Trade Hurt Unskilled Workers," in *Journal of Economic Perspectives*, Volume 9, Number 3, Summer 1995, pp. 57-80.

[3] "Has Globalization Gone too Far?" Institute for International Economics, 1997.

[4] "Kasra Ferdows, "Making the Most of Foreign Factories," in *Harvard Business Review*, March-April 1997."

[5] "Workforce 2020," p. 125 R.W. Judy/C.D. D'Amico.

[6] The Gross Domestic Product, however, does not perfectly measure either actual output or overall well-being because it does not account for such things as non-market transactions, externalities, and non-economic quality of life improvements.

Chapter 3
Converging Paradigms: The Worlds of Work and Education
The Changing Forces Affecting Education and the Economy

by Marc Anderberg and Dan Bristow

Learning is what most adults will do for a living in the 21st Century. — Bob Perelman

There is something expansive, yet comforting in the word "paradigm." It refers to a way of thinking or an institutional process so entrenched, so unquestioned, that scholars and neophytes alike find solace and strength in knowing that it will always be so. Almost every American has witnessed first-hand, for example, the linear process of acquiring an education and then finding a job. This linear paradigm is so pervasive that it colors the way Americans think and talk about both education and work.

But as the world around us changes, even the most venerable institutions must succumb to transformation. The world is growing smaller with improved communications systems, lowered trade barriers, and lightning-fast movement of information and investment capital across the globe. The challenges and opportunities posed by unfettered global capitalism and rapid technological proliferation must therefore affect even the most sacred and constant of our cultural paradigms. (See Chapter 2: *The Impact of Globalization* for more on this topic.) And so it is with the American worlds of education and work.

Past Paradigms: The Relationship Between Work and Education

To engage in a meaningful discussion of the changing worlds of work and of education, we must take a step back from the global economy, the volatile labor market, and the content and delivery of public school curricula. We must look instead at the relationship between work and education and how information systems can help connect them. Ray Marshall and Marc Tucker, in *Thinking for a Living*, make a strong case for the correlation between the

function and structure of labor market changes and the concomitant change in the structure and function of the education and training delivery system.[1] As each domain adapts to the external environment, gradual, evolutionary change likely occurs first in the world of work—as occupations disappear and others emerge in response to fluctuating consumer demands for goods and services.[2] Such changes, in turn, trigger modifications to curriculum content and instructional modalities.

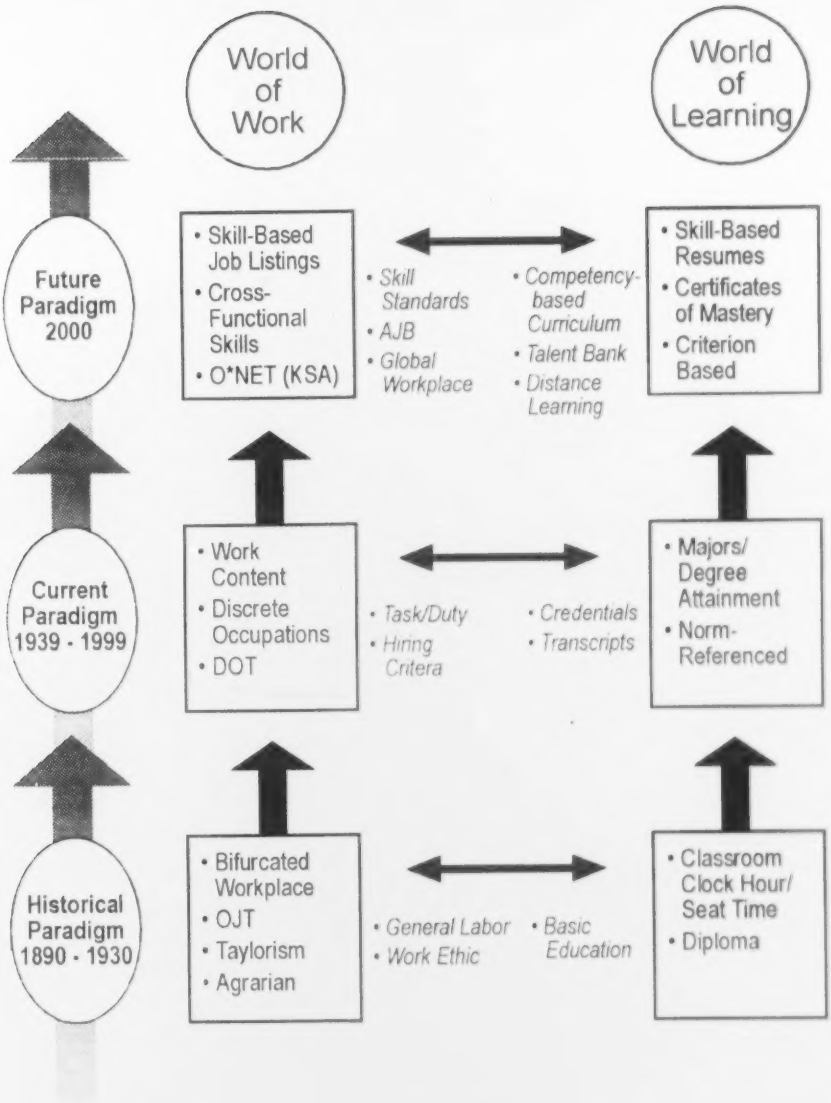
At critical junctures in history, the economy has indeed been transformed so profoundly that change spilled over into the way work was organized and performed, which in turn had a drastic effect on the education delivery system. During the Industrial Revolution, for example, manufacturing replaced extractive activities (e.g., hunting, trapping, fishing, farming, mining, and timber). Instead of performing work in natural settings within small, self-directed units, people completed small repetitive tasks along an assembly line, closely supervised by several layers of managers. Education and training underwent similar changes, not only in the content of the curricula, but its delivery. In the extractive, largely agricultural economy, family members imparted knowledge by mentoring the next generation on the job. Imparting the minimal literacy skills and proper work attitudes necessary to function on the assembly line to large masses of students, however, required rote learning in public schools (see Figure I, *The Shifting Paradigms*).

Changes in the delivery of the curricula necessitate changes in the kinds of information recorded about students. The small-scale mentoring of family members suitable for an extractive or agrarian economy required no documentation or data collection. Such on-the-job training seldom had a definitive exit point. No formal credentials had to be issued because survival and prosperity made it evident whether learning had or had not occurred. The mass production approach to public education developed to meet the needs of a manufacturing-centered economy, on the other hand, had to certify or warranty the work-readiness of large numbers of students. Thus, the education system established formal credentials to signify how much time-on-task each student had devoted to learning opportunities. The credentials also differentiated whether the imparted instruction prepared students for performing repetitive tasks on the shop floor, supervising the work of others, or continuing education and training for the "higher" professions.

Historically, education and training techniques have changed to suit the economy of the times.

The public education system required a great deal of data to certify what kind of training it imparted and to sort students for appropriate roles in the industrialized economy through gross measures of their learning habits.

Figure I
The Shifting Paradigms



Accordingly, the education system monitored and reported absenteeism, tardiness, deportment, and graduation because they had their functional equivalents in the world of work: good attendance, punctuality, good work habits, ability to follow instructions, and a capacity to perform duties and tasks if closely supervised. So long as the vast majority of students exited public education with the discipline to work on the assembly line, the industrialists did not care which school students attended. Given this bottom-line philosophy, it seemed logical for schools to judge themselves not by the achievements of the majority of persons exiting the training pipeline, but rather by the accomplishments of the small portion who went on to postsecondary and professional education and training. They relied on the "cream of the crop" to differentiate schools.

Industrial Paradigm Challenged

Today, analysts concur that the American economy is undergoing a transformation equally as profound and unique as the Industrial Revolution. Writing in the 1960s about the impact of computers, Peter Drucker forecast the emergence of the knowledge-based economy which now exists:

> In the past twenty years we have created a brand-new form of capital, a brand new resource, namely, knowledge.... [W]e are doing something very revolutionary. We are applying knowledge to work. Seven-odd thousand years ago, the first great human revolution took place when our ancestors first applied skills to work. They did not use skills to substitute for brawn... rather, our ancestors put skills on top of physical labor. And now—a second revolution—we've put knowledge on top of both. Not as a substitute for skill, but as a whole new dimension. Skill alone won't do it any more... One of the most potentially earth-shaking forces in our economy is the technology of information.... The impact of information, however, should be greater than that of electricity, for a very simple reason. Before electricity, we had power, we had energy. It was very expensive and rather scarce, but we had it. Before now, however, [i]nformation [was] unbelievably expensive, almost totally unreliable, and always so late that it was of little if any value. Most of us who had to work with information in the past... developed... a reasonably good instinct for what invention was plausible and likely to fly, and what wasn't. But real information just wasn't to be had. Now, for the first time, it's beginning to be available—and the overall impact on society is bound to be very great. [For one thing] we will need thinking people—**not just at the top**. The point at which we teach people to think will have to be moved further and further down

> the line... And this gets us into myriad questions of teaching and learning, of developing knowledge and techniques of thinking [if we are to harness and manage knowledge]... But that is another subject.[3]

While Drucker professed not to know all the implications of the coming knowledge-based economy, he saw that it would profoundly affect education and training. The generation coming of age in the new era would have to think, rather than memorize, and adapt to the rapidly accelerating pace at which technologies would become obsolete and be replaced by new ones.

Today, we are just beginning to realize the New Economy's ground-shaking effect on education and training. In the first place, educational institutions no longer have a monopoly on knowledge. Instead, they must teach students how to access knowledge that may reside elsewhere, how to evaluate what parades before them as if it were knowledge—"separating the wheat from the chaff," so to speak—and how to harness knowledge to enhance productivity. Second, most of the knowledge that today's students will use in their adult lives probably has yet to be discovered. Indeed, the knowledge imparted to them during their postsecondary school years, especially in fields dominated by the sciences and technology, will have a very short "shelf-life" and may be obsolete by the time they embark on their desired careers. A commitment to perpetual learning[4] will have to replace the notion that education occurs in specific settings and culminates at some definite point in time with some sort of terminal credential. *Learning how to learn has become as important as the substance of what you learn.*

Knowing how to learn is as important now as knowing actual content.

The Emerging Paradigm in the World of Work

Peter Drucker's prediction about the dawning Information Age came during a time when the efficacy of the industrial paradigm was being challenged on two other fronts. First, time and motion analysts, industrial engineers, and industrial psychologists, etc., had begun to realize that humans do not perform repetitive tasks well. Machines, on the other hand, could do such work tirelessly because they do not experience fatigue, boredom, or injury. At the same time, philosophers and social-psychologists began to recognize how repetitive tasks and micro-management of line workers demeaned and dehumanized people. Such work suits machines much better. While both groups saw the emergence of computerized and roboticized operations as a way to accomplish routine work more efficiently, the philosophers saw the move as one that would liberate individuals to do more meaningful, stimulating, and self-fulfilling work.[5]

For reasons both philosophical and practical then, today machines perform increasingly more industrial tasks. As a result, line workers who are unwilling or unable to "retool" find themselves replaced by machines. Supervisors, no longer needed to oversee large numbers of line workers, find themselves superfluous when their traditional supervisory skills don't transfer to new job requirements, such as maintaining the machines that now do the work. Not surprisingly, the U.S. experience of the late 1980s gave witness to the demise of many private sector middle management jobs.

To compete effectively in a global economy, American business and industry must milk more productivity out of each worker by harnessing and managing knowledge, not manual labor. Competitive advantage no longer relies on proximity to sources of raw materials, customers, cheap labor, or the skills and crafts of an indigenous workforce. While probably more work exists than ever before, many firms have downsized to reduce their primary expense—direct labor costs and fringe benefits. Organizations have effectively "flattened" because they no longer need middle-managers to micro-manage workers. Employers increasingly outsource large portions of their workload to third party contractors, perhaps even to former employees now acting as independent contractors responsible for their own overhead and fringe benefits. Workers who remain as direct employees may be reduced to part-time or temporary status. At the same time, the fine lines distinguishing one set of occupational duties and tasks from those of another occupation have become blurred or obliterated.

To compete, American firms must harness and manage knowledge, not manual labor.

How do these current workplace trends affect the future? Experts predict that work will be organized by economic sector or by industry cluster, rather than by discrete and finely-differentiated occupations. Increasingly, projects—rather than occupations—will become the central organizing concept underlying employment patterns. These changes will create an "at-will" labor force. In the at-will labor force, each individual must not only accept full responsibility for maintaining a current knowledge base but also for having the foresight to build a personal financial safety net as a hedge against bouts of unemployment that may in the future affect nearly all persons with great regularity. Above all, individuals must make a concerted effort to form reasonable expectations about the skills and knowledge they will need for future employment. They must learn perpetually through problem-solving and "reflective practice"[6] on the job, in the classroom, at home, and at play if they want to enjoy a modicum of employment security in an ever-tightening and unforgiving labor market.

Just as line workers and their supervisors are the "victims" of the paradigm shift in the world of work, so, too, are occupationally-centered coding taxonomies casualties of the new focus on projects rather than occupations. The faster the pace of change in technology implementation, consumer tastes, labor laws, and human resource management theories, the faster the conventional occupation-centered concepts and related data structures become obsolete. Yet, today, much of our information about employment still relies on occupational coding schemes such as the *Dictionary of Occupational Titles* (DOT) and the Occupational Employment Statistics survey classification. Data definitions applied by these coding schemes to job titles center on the distinct duties and tasks of specific work assignments and hierarchical supervision and management. A skills-based taxonomy (such as the O*NET developed by the U.S. Department of Labor) far better suits the realities of an economy featuring flatter organizations, project-driven production, and the disappearance of discrete, micro-managed job assignments.

The Emerging Paradigm in the World of Education

Just as the occupational approach to labor market analysis will yield to a skills-based approach,[7] so too will there be changes in the way information about education, training, and workforce development services are collected, coded, and reported. Parallel to the occupation-centered framework for coding employment data, information about education and training data structures has been neatly organized by coding schemes built around course-centered curricula conveniently managed as blocks of seat time, i.e., clock- or contact-hours. To meet the changing environment, educators and employers must combine forces to translate school curricula into functional equivalents in the labor market, and *vice-versa*.

Since the current education system was designed primarily to prepare workers for industry, recent changes in the world of work mean the education system must adapt to prepare workers for the Information Age. Current practices, particularly in the area of data collection, need to change—not because federal or state officials have made policy declarations, but because they no longer serve adequately to link the world of work and the world of education and training.

Educators and employers must work together to translate school curricula into labor market equivalents and *vice-versa*.

A course-based taxonomy of education delivery systems does not fit in the emerging paradigm which requires two levels of data. First, skills and competency assessment data, at the more refined and detailed end of the spectrum, will become more important than gross course completion data

because work will be organized more frequently as short-term projects undertaken by *ad hoc* teams. The key to employability will be some certification of what job applicants know and can do plus the contributions they can make to the team effort. In addition, program-level or career major data will be increasingly more important as organizations flatten, Tayloristic (micro-management) theories of human resource management fall by the wayside, and employment occurs more often in industry job clusters than in more narrowly defined occupations. In fact, a taxonomy built around career majors crosswalked to requisite knowledge, skills, and ability would render a course-based taxonomy wholly obsolete.

Individuals will be increasingly proactive in accessing learning opportunities after they have passed traditional school age. As distance learning providers make training-on-demand a reality, individuals will realize that traditional "brick and mortar" schools do not have a monopoly on knowledge. They may be more rational and focused in their selection of education and training options with an eye to updating and improving their employability prospects continuously. Dramatic changes affecting the delivery of education and training at the secondary level include: (1) work-based learning experiences and other off-campus instruction, such as mentoring and shadowing; (2) distance learning and public-access television; and (3) self-directed learning via materials on CD-ROM or through the Internet accessed in a school's computer lab. An increasing percentage of education and training delivery may become open-entry/open-exit and self-paced with exit-points determined by demonstrated mastery of the knowledge and competencies contained in each module rather than "seat time." Eventually, as we accept the notion of perpetual learning, even career majors will disappear—to be replaced by reflective practices at work, at school, and at play which build knowledge, skills, and abilities that can be applied in constantly arising problem-solving situations. (See Chapter 11: *The Case for Career Majors* for more on this topic.)

Workers will seek education and training opportunities continuously to improve their employability.

Regardless of the instruction method, students will want some kind of credential which certifies to prospective employers that they possess the requisite skills and knowledge to succeed in the workplace. Employers, too, will always want some "gate-keeping" instrument that helps them quickly eliminate from the stack of job applicants those who obviously cannot perform the work. In addition, before investing time and resources in a plan of study, prospective students will want assurances that employers value the knowledge, skills, and abilities at the core of the curriculum. The best way for prospective students to judge the quality and effectiveness of education and training alternatives will be in terms of the results achieved by cohorts that preceded

them in the education and training pipeline. (See Chapter 10: *Closing the Loop* for more on follow-up.) The disparate languages of education and employment will necessarily converge as first the delivery of education and training and then data systems follow suit to supply new kinds of information necessary to drive both the improved credentialling process and informed choice in career guidance.

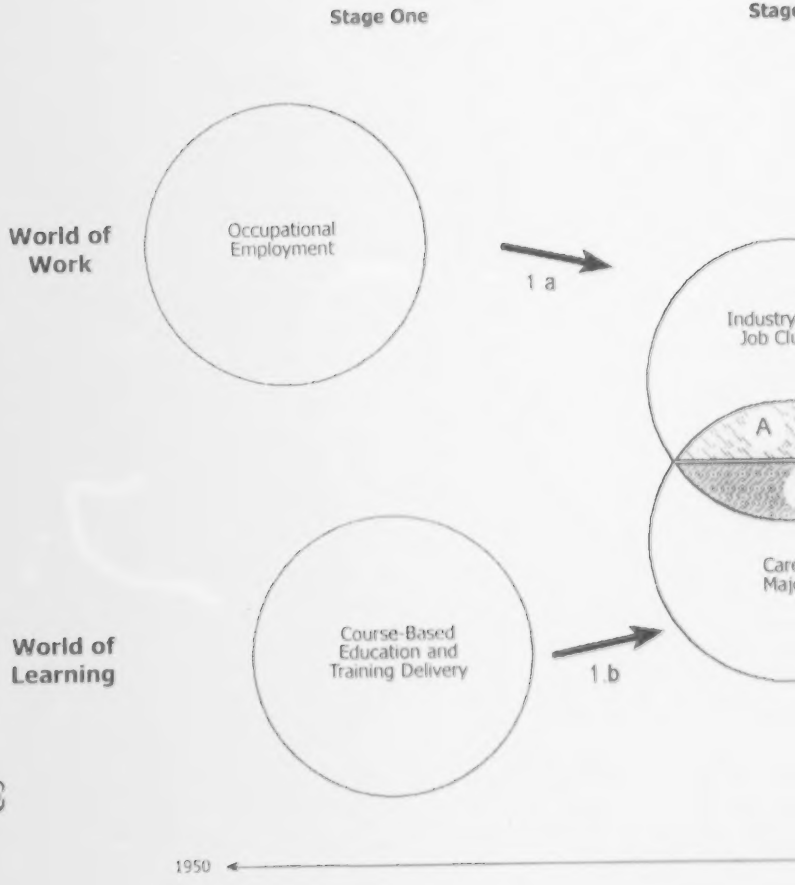
Converging Paradigms

In time, the two paradigms—the worlds of work and of education and training—will converge as both parties to the labor market supply and demand equation make parallel revisions in the way they perform their respective functions. The schematic of Figure II, *Anticipated Convergence of Two Parallel Paradigms*, illustrates the glaring need for convergence between the two worlds and how it should take place. The data systems of each world serve as their mirrors, reflecting their changing structures and functions. Transformation of the data elements used to communicate reciprocal needs and expectations between the two worlds can be identified by following the lines from one approach to the next.

In Figure II, the horizontal dimension represents change over time; the vertical dimension reflects the degree of convergence or functional equivalencies of the two worlds. Moving from left to right, note that, true to Marshall and Tucker's observations, change occurs first in the world of work. There is a simple reason: business and industry, being more vulnerable to competition, must adapt more rapidly. The top, left-most circle depicts occupations as the central organizing concept in the world of work from the 1950s and back—actually for a number of centuries. After World War II (the beginning time frame in Figure II), however, the Department of Labor shifted the focus of the Dictionary of Occupational Titles, through the inclusion of occupational duties and tasks, to help men and women leaving the Armed Services and defense industries find jobs in the civilian economy. This second edition of the DOT mirrored a world of work where duties and tasks were highly specialized, clearly differentiated, and micro-managed in the decade immediately following World War II.

The paradigms for the worlds of work and education will eventually converge, strengthening the ties between labor supply and demand.

At the other end of the time line, extending well into the 21st Century, work will likely be organized into short-term projects. Global competition will continue to increase employer concern for productivity and may lead to additional rounds of downsizing, more mechanization/roboticization, outsourcing, and reliance on an at-will labor force. Rather than paying to maintain a large "inventory" of incumbent workers, firms will be more likely to


Stage One
Stage
World of Work
Occupational Employment
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Industry Job Cl
A
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World of Learning
Course-Based Education and Training Delivery
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Stage Three

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Project-Based
Employment

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E

D

Modular Skills
Delivery

21st Century

Figure II
Anticipated Convergence of Two Parallel Paradigms

employ a "just-in-time" workforce. Work increasingly will be performed by *ad hoc* teams of individuals who possess the specific skills, competencies, and knowledge-bases to problem solve and complete short-term assignments. In response, workers will need to take charge of their careers: seizing the initiative to seek each succeeding round of project-based employment, carefully shepherding their earnings to cover anticipated bouts of unemployment, and acquiring new skills and knowledge to keep pace with employer expectations. In many instances individual workers will be responsible for their own retirement and health plans, as well.

Stage One

As represented by the upper middle circle in Figure II, industry-based job clusters will replace strictly occupational employment. Work probably will be performed on behalf of a firm by a mix of incumbent employees and third party contractors familiar with the products or services provided by that firm's industry or sector of the economy. Well into the next decade, incumbent workers may continue to operate under conventional occupational titles, although the dividing lines between existing occupations will crumble and the requisite skills and knowledge-bases will change radically.

Occupational employment will give way to industry-based job clusters.

The move away from narrow occupational specialties follows the need for more generalists. As employers abandon Tayloristic management theories and organizations flatten, leaving fewer middle managers, workers—practically speaking—will become their own managers. Each will be responsible for making decisions, adapting to change, applying new technologies, solving problems, and engaging in critical and creative thinking to improve personal and team productivity. In other words, nearly all workers will have to become generalists. Contract workers, especially, acting independently as temporary help or under assignment to a specialty outsourcing entity, will be generalists capable of tackling a broad range of duties and tasks—thinking for themselves and improving their own productive capacity by applying new technologies.

The lower portion of Figure II depicts the world of education and training and its changes over time. The first circle reflects the historical model which treated courses as the central organizing concept and the key data element in educational management information systems. This approach makes the delivery of mass production education relatively easy because a course syllabus and learning objectives can be highly standardized with management conveniently tied to seat-time, i.e., clock-hours, or Carnegie units. Just as in the

world of work, persons specializing in relatively narrow fields of study, or those assigned to do so, deliver the routine curriculum. The dividing lines between subject-area responsibilities are clear cut and rigidly maintained.

Figure II displays a wide distance between the Occupations and Courses circles, representing the difficulties employers and educators currently have in communicating with each other. The reasons for the separation are simple. First, as both worlds undergo change, employers find it difficult to communicate their needs to educators when the occupational titles they previously used no longer clearly define and finely differentiate their needs. Educators, on the other hand, find it challenging to explain what services and activities they perform when they no longer tie much of education and training to seat-time, clock-hours, or Carnegie units. This thorny issue becomes especially evident as classroom instruction gives way to other approaches better tailored to the needs of and time constraints on individual students. Finally, the basic coding structures currently in use were designed separately to meet *internal* data analysis and management needs with little thought given to the mutual communication needs of educators and employers: courses, for example, do not translate unambiguously into labor market skill equivalencies.

The distance between the Occupations and Courses circles in Figure II represents the communication gap between employers and educators.

When employers and educators remain locked into separate and outmoded paradigms, they fail to communicate effectively. The real losers are the students of today who become the job seekers of tomorrow. As the world of work transitions from occupations to employment organized into industry-based job clusters, represented on Figure II by the line designated 1.a, the lack of effective communications between employers and educators becomes more acute because:

1. Employers view an applicant's age as a better proxy of maturity and work-readiness than credentials based on seat-time or clock-hours of exposure to learning opportunities. They disregard formal credentials to the extent that parchment and sheepskin documents do not guarantee that students actually learned anything in the courses they took or that what they did learn will be of any use in the world of work.

2. Employers perceive themselves as having little input into curriculum design. Some think that educators cave in to pressures to award credentials for socio-political reasons rather than on the basis of merit and achievement. Employers care little how students performed relative to their classmates on "multiple-guess tests" graded on a curve. They want to know if students can demonstrate the necessary competencies

and proficiencies benchmarked to the productivity and profitability needs of the workplace. Employers' lack of involvement in curriculum development (or at least its validation) leads to a lack of a common language with educators.

3. Employers often rely on references from fellow employers as better indicators of work-readiness. Unlike formal credentials, references can vouchsafe that an applicant: remained on-the-job with previous employers for a reasonable length of time; grew in responsibilities; demonstrated worthiness for earnings increases; and progressed to subsequent jobs not haphazardly but rather to enjoy new challenges, increased responsibilities, and improved earnings. While few large companies still accept the liability of providing detailed references for individuals, fearing lawsuits for unfavorable remarks, many small organizations continue to provide and rely on such "word of mouth" recommendations.

At a certain point, employer criticism reaches a critical mass. It fills the media, echoes through the halls at school board meetings, and becomes an issue in local, district, state, and national elections. When employer criticism begins to affect funding, educators can ignore it no longer. Thus, lagging somewhat behind change in the world of work, change occurs in the world of education and training, as represented by line 1.b in Figure II. Eventually, change, as represented by line 2.b, will result in a skills-based education and training delivery system. For convenience, we have labeled this in Figure II as "Modular Skills Delivery." However, such a system cannot be implemented fully until all the ramifications of changes in the world of work (line 2.a) are thoroughly investigated and understood. Just as the intermediate phase in the changing world of work serves as a milestone between occupational employment and project-based employment, education and training begins to be organized around Career Majors as an interim point on the road to a Modular Skills Delivery System.

Someday, employer pressure will lead educators to adopt a Modular Skills Delivery model.

Stage Two

The delivery of education and training probably cannot be transformed radically from the course-based approach to the modularized skills-based approach. The transition will be smooth only if career majors take the place of courses and serve to start us thinking more clearly about the identification of required skills and competencies. A number of factors enable this process to occur.

1. Students become aware of the basic products and services of an industry, its customer base, its sources of knowledge, and the means of accessing its knowledge base. In other words, learning about the variety of functions throughout an industry becomes more important than specific occupational training.

2. Artificial distinctions between courses based on either subject area or modality of instruction begin to crumble as academic and vocational instruction ("chalk & talk" *vis-à-vis* practical applications) are integrated throughout the curriculum.

3. Employers participate, not as hostile critics of education and training, but as collaborators in the design of a comprehensive, coherent curriculum. Such collaboration establishes links between career majors specialists and employers from corresponding industries where students are most likely to find subsequent employment.

4. Work-based learning and school-based learning are recognized as equally valuable and mutually reinforcing instructional strategies.

5. Freed from the constraints of clock-hours, seat-time, and enrollments by class period, education and training providers begin to accommodate the unique needs and learning styles of individual students.

6. Career counseling becomes more data-driven to help students form reasonable expectations about likely post-exit results. Data-driven career development will enable students to make informed career choices and to select appropriate education and training alternatives.

(See Chapter 11: *The Case for Career Majors* for more details.)

At this intermediate stage, our model in Figure II portrays a greater degree of overlap between the worlds of work and education.

- In the shaded area [A], employers and educators sit at the same table to collaborate on curriculum development. Employers start to shoulder more responsibility for delivering education and training through work-based learning opportunities.
- Career guidance counselors and curriculum developers serve as intermediaries. With their feet figuratively planted in both worlds (shaded area [B]), these intermediaries serve to facilitate improved communication between employers and educators. Their task of translating from one world to the other becomes easier as data in the world of work become organized around the concept of industry-based job clusters and data in the world of education organized around career majors.
- Employers find a better way of communicating their needs and expectations clearly. Educators find better means of explaining their activities, services, and the proficiencies of the students they have guided through a variety of learning experiences.

This vision of guidance counselors and curriculum developers serving as intermediaries may be idealistic. The concept stems from practices used by Japanese entrepreneurs to capture a larger share of the American market. Japanese auto manufacturers, for example, relied on sales representatives from the field to explain to their design engineers what features and benefits American customers wanted. The sales representatives had a better handle on customers' needs than did engineers and drafters confined to cubicles in the home office. Counselors and curriculum specialists can serve in much the same capacity as the sales representatives for Japanese auto manufacturers. Instructors, on the other hand, may be like the engineers and drafters—by necessity, tied very closely to the classroom or learning laboratory. In theory, career guidance counselors and curriculum developers would have extensive contact with employers. Thus, they would be better positioned to suggest what the "customers" of education and training (i.e., students and employers) expect of education and training.

In theory, guidance counselors and curriculum specialists would serve as education's liaison with employers. In reality, they may not be the practical choice.

In reality, however, most counselors find themselves overwhelmed by students' personal issues. Meanwhile, curriculum developers often are accused of being "ivory tower prescient," steeped in pedagogical theory but out of touch with employers and real labor market conditions. While these groups are presumed to be in best positions to facilitate much needed educator-employer interaction, many counselors and curriculum developers are ill-equipped to perform the task of intermediary.

Three things must happen before these potential intermediaries can fulfill this critical role. First, institutions must free counselors and curriculum specialists from ancillary, time-consuming administrative duties such as monitoring student behavior in the cafeteria during lunchtime or in the parking lot after school hours. Second, they must recognize explicitly the importance of counselors and curriculum specialists' roles as information conduits with the employer community and give them the formal authority to serve in that capacity (e.g., tie their effectiveness as communications facilitators to their individual performance reviews). Third, the training and professional development for counselors and curriculum specialists should include an extensive orientation to the real world of work and to the communications networks within the employer community.

As we go through the first decade of the 21st Century (2.a and 2.b), communication will continue to improve as the two paradigms converge to an even greater degree. Research projects funded with federal dollars under the National Skills Standards Board and with state dollars under initiatives similar to the Texas Skills Standards Board will begin to produce results that crystallize employer expectations. Eventually, experts will benchmark skill standards officially to employers' productivity and profitability needs for all industries or sectors of the economy. Skills and competencies will become the "common currency" of both the world of work and the world of education. A standard taxonomy of knowledge, skills, and ability ratings will replace both the occupations-based coding structures of the former and the course-centered approach of the latter (shaded area [C] in Figure II). Employers will become collaborators not only in curriculum design but also in devising authentic assessment strategies and in validating criterion-referenced assessment instruments (shaded area [D] in Figure II). Ultimately, the convergence of paradigms will be manifest in collaboration by employers and educators on the design of credentials that certify which students have demonstrated required competencies at a level that would make them valuable employees (shaded area [E] in Figure II).

The "common currency" in both the worlds of work and education will be skills and competencies.

Stage Three

At the far right of the diagram—later in the 21st Century—the two paradigms converge: all artificial and unnecessary distinctions between the world of work and the world of education and training disappear. Individuals engage in "perpetual learning." They solve problems and reflect on the process and its results, thereby distilling useful knowledge and reinforcing the habit of critical thinking for use in future problem solving situations. So conceived, perpetual learning extends beyond the classroom or specifically created workplace opportunities. While traditional classroom and on-the-job training remains among the choices open to willing learners, perpetual learning permeates all aspects of life.

The Students as Beneficiaries

The paradigm convergence and improved communications will benefit students by eliminating barriers in the current system which hamper their rational career development. As long as occupations and courses remain the principle organizing concepts in the worlds of work and education and as long as the elements of one do not translate unambiguously into their functional equivalents in the other, it is difficult, nigh on impossible, to provide or receive clear career guidance. Students and their parents need and have a right to know about the connections between the worlds of work and of education. But how can we expect laypeople facing life-impacting decisions to make rational choices if the two disparate camps of experts cannot communicate between themselves? As both occupations and courses lose ground as the primary explanatory concepts in their respective realms, the relevance and accuracy of career guidance becomes all the more difficult. In other words, the "random walk" between "getting an education" and "getting a job" becomes more muddled. Further, attempts by educators to preserve artificial distinctions between "vocational" and "academic" courses exacerbate this situation.

In the current system, students face many obstacles to making informed decisions about their education and careers.

To add to the confusion, employers increasingly refrain from hiring students right out of high school for permanent, full-time, high wage jobs no matter how well they performed in the classroom. By creating a time gap between the delivery of secondary education and training and its full pay-off in the labor market, these hiring practices make it all the more difficult for students to see rewards for their efforts and persistence. It does no good to declare *a priori* that a certain field of study is the springboard or pathway to a desired career. Empirical evidence on the post-exit achievements of recent graduates often

contradicts the conventional wisdom embodied in such declarations made by well-intentioned educators. This hard evidence confirms impressions students already derive from personal experience or the experiences of their friends, neighbors, and relatives who received misleading information about purported pathways to career success. Since the vast majority of students undertake postsecondary education with the primary goal of improving their employability, it does students a disservice to dazzle them with marketing hyperbole if, by doing so, they enroll in education and training programs which offer dismal post-graduation employment prospects.

Educators can best serve students by orienting them to the following harsh realities of today's labor market. As the global economy makes available labor supply in countries around the world, cost-conscious employers increasingly will hire U.S. workers with requisite skills or move production operations overseas. Indeed, as the new century dawns, the mix of the U.S. economic and demographic conditions has resulted in a peculiar kind of labor shortage in many states and localities. While a modest scarcity of job seekers exists in general, specific skills areas report acute labor shortages in particular. A general labor shortage causes each employment strata to dip down into the next level of workers to fill available jobs. That translates into high-knowledge based employers recruiting among workers traditionally in production or technical services jobs. This next tier of employers, having had their normal labor pool pirated by higher paying, high-knowledge employers, pursue workers traditionally performing in low-knowledge service jobs. This situation leaves fewer available workers for lower-paying, low-end service employers, who must then recruit among persons with the least skills and labor market attachment to fill available job openings.

This present day scenario is very unique in U.S. economic history. In fact, it has confounded many traditional economists unaccustomed to persistent labor shortages. Generally speaking, one might expect the combination of capital-intensive *vis-à-vis* labor-intensive operations and downsizing in pursuit of short-term profit-taking to result in a "buyers' market," i.e., a surplus of labor chasing fewer high paying jobs. While the current labor market easily could be called a "sellers market," there continues to be considerable employment volatility (job loss and new job creation) at the low-wage end of the spectrum and keen competition for the high-skill, high-wage jobs at the top end. Thus, in essence there are two economies with a wide gulf between them: the prospering and growing high-skill/high-wage economy and the chronic unemployment or underemployment at low-wages among those without highly developed skills. The key determinant of individuals' respective participation in one economy or the other depends largely on the education and training they obtain.

Education and training determine whether you enter the high-wage or low-wage economy.

This circumstance makes the link between worker knowledge/skills and employer hiring requirements all the more critical—for employers and students alike. Most importantly, workers find it increasingly difficult to move from an entry-level job to a higher paying position without some postsecondary instruction. Indeed, recent career ladder research conducted by Career Development Resources, formerly the Texas SOICC, (*Texas Career Progressions*, 2000) found limited movement over time from entry-level to higher paying positions among the twenty occupations studied. Clearly, those with education that more closely parallels employer hiring requirements experience the greatest labor market success.

Conclusion

As we move from a resource-intensive economy to a knowledge-based one, a greater percentage of the jobs offering good wages will require at least some postsecondary education and training. At the same time, opportunities for those without much education will decline. As labor-intensive factories close or become mechanized, relatively unskilled high school graduates or dropouts no longer can expect lifetime careers at relatively high wages. The end of the Cold War and the downward pressures on defense spending also have reduced the capacity of the Armed Forces to absorb large numbers of young labor market entrants.[8]

The economy's change from resource-intensive to knowledge-based means that more high-wage jobs will require postsecondary education and training.

Lowering standards to enrolling more students in postsecondary education and training and lowering graduation requirements to put more job seekers on the streets with formal postsecondary credentials is not the solution. As mentioned previously, employers look with increasing skepticism on education and training credentials as indicators of work-readiness, and view age as the best proxy for maturity and, ergo, work readiness. They likely prefer a 26 year old job applicant with a work history of three or more jobs with progressively more responsibilities—regardless of formal education and training—over the recent high school or college graduate with related occupationally-specific training. Today's credentials indicate only that a student accumulated sufficient clock-hours of exposure to instruction; they do not necessarily mean that the student learned anything or that what the student learned included the skills and competencies needed to succeed on the job.

These are some of the many challenges presented by the shifting paradigms of the worlds of work and education and training. Once perpetual learning becomes the norm, we presume both the locus of decision-making issues and data collection concerns may disappear altogether. Learning will be pervasive throughout all aspects of our lives. Choices will abound and individuals will take advantage of all opportunities to learn without being bound by artificial constructs or the need for formal credentials, collection of data as proof that learning has taken place, or the "rendering unto Caesar" for either the collection of data or the certification of learning. Personal preferences and cognitive styles will determine—in market fashion—how individuals learn and how they apply knowledge, creative thinking, and problem-solving skills to the dilemma of earning a living. Individuals may be issued "smart cards" containing information about their skills and competencies that can be updated on the spot in real-time... but that's another essay![5]

NOTES

[1] Ray Marshall and Marc Tucker, *Thinking for a Living: Education and the Wealth of Nations* (New York City, NY: Basic Books, 1992), p. 112ff. Also, Joel Spring, *The Sorting Machine: National Educational Policy Since 1945* (New York City, NY: David McKay Company, Inc., 1976), especially Chapters 2 and 6. Spring identifies education as a handmaiden to national foreign policy. Since global economic competition drives the nation's foreign policy more now than when Spring published his thesis, the connections between schooling and the labor market will also be stronger. Thus, Spring's thesis predated the Marshall-Tucker thesis by nearly twenty years.

[2] CDR addresses these kinds of changes and their relationship to the curriculum in *Texas Emerging and Evolving Occupations* (Austin, TX: Career Development Resources, August 1999).

[3] Peter F. Drucker, *Technology, Management, and Society* (New York City, NY: Harper and Row, 1977 edition), pp. 167-177 (passim). See also, Marshall and Tucker, op. cit. and Richard Crawford *In the Era of Human Capital* (New York City, NY: Harper Collins, 1991).

[4] We prefer the phrase "perpetual learning" over "lifelong learning." In this preference, we agree with Donald M. Norris in "Perpetual Learning as a Revolutionary Creation" in *On the Horizon*, 4:6 (November/December, 1996), pp. 1-6. Norris contends that lifelong learning is an industrial-age metaphor that envisions the individual learning the basics, then periodically retooling when skills become obsolete on a "time-out-for-learning basis." Perpetual learning, on the other hand, is a knowledge-age metaphor that envisions the learning occurs in a pervasive atmosphere, i.e., that learning is fused with work, leisure, and other life activities. Perpetual learning can and will occur anywhere, anytime, and anyplace. Choice of venues and modalities will be the hallmark of perpetual learning, with traditional education and training in the classroom or in workplace settings among the options.

[5] While the student protest of the 1960s and 1970s came to focus narrowly on the war in Vietnam, the movement began more as a protest against the perceived links between education and training providers and the dehumanizing, demeaning, and alienating way work was organized in the industrial economy. (See, for example, the exchanges between Clark Kerr, Chancellor of the University of California at Berkeley and author of Uses of the Multiversity and Mario Salvio, leader of the Free Speech Movement at Berkeley.) The focus of the protest movement changed rapidly. Protestors accused education and training providers of being subservient to the "Military-Industrial Establishment." With casualties increasing in Vietnam, the focus shifted to the military portion of "the Establishment," particularly two successive Commanders-in-Chief. As the vilification of Johnson and Nixon, the body counts and kill ratios, guerrilla theater, and rancorous debates over the war in Vietnam created high drama, the nation lost sight of earlier philosophical debates about the structure of the economy and its implications for workers and for the role of education and training. In the end, a preindustrial nation and the preeminent industrial nation eventually fought to a stalemate, Johnson and Nixon have been laid to rest to await the judgments of history, a former opponent of the war now occupies the White House, and major American soft drink companies battle for the rights to build bottling plants in a unified Vietnam. After a thirty year hiatus, the United States, Vietnam, and the rest of the nations on earth have given center stage to debates over the organization of work and the role of education and training providers in a knowledge-based and globalized economy. See Marc Anderberg, *Behold, Our Butter Still Stinketh: Three Centuries of Student Protest in America* (unpublished graduate thesis in Political Theory, University of Iowa, 1975).

[6] Norris, op. cit.; see also Terry O'Banion, "Gladly Would He Learn," in *On the Horizon*, 4:1 (January/February 1996), pp. 1-5.

[7] See Marc Anderberg, *Access to Information based on Unemployment Insurance Wage-Records and Alternative Public Administration Databases: A Report on America's Labor Market Information System* (Austin, Texas: Career Development Resources, 1996) and Marc Anderberg and Jay Pfeiffer, *A Field Guide to Automated Follow-Up* (1997). These works contain more detailed discussions of the emerging "Skill Standards Paradigm" in labor market analysis and the length of time the new paradigm will take to displace the current occupation-centered paradigm.

[8] Richard Zemsky, et. al. *EQW Policy Statement* (Philadelphia, PA: Center on the Education Quality of the Workforce, University of Pennsylvania, 1995).

[9] Wallace Hannum, "Smart Cards for Schools," in *On the Horizon*, 4:5 (September/October, 1996), p. 9.

Chapter 4
Using Labor Market Intelligence to Guide Strategic Planning
Creating an Effective Labor Market Plan under the WIA

By Richard Froeschle and Marc Anderberg

Our goals can only be reached through a vehicle of a plan, in which we must fervently believe, and upon which we must vigorously act. There is no other route to success.
— Stephen A. Brennan

Strategic planning for workforce development is one part art and one part science. While most of the attention in workforce development programs goes to meeting performance requirements and addressing the day-to-day challenges of program management, the key to a successful program lies in a sound strategic plan. This essay explores many facets of strategic planning in workforce development but focuses primarily on creating a strategic labor market plan.

Strategic Planning

A strategic plan contains several components. These include: (1) a vision of desired results, (2) an understanding of forces likely to impinge on that vision or barriers to achieving avowed goals and objectives, (3) well-reasoned expectations of what will work and what won't, and (4) a well-conceived road map to the future. While all of these elements may involve a great deal of speculation and imagination—maybe even a big dose of wishful thinking—the strategic plan must remain grounded in reality.

Crafting the plan is only half the battle. Implementation is the other half and local workforce development boards should design plans to engender support from stakeholders and staff alike. It doesn't matter whether a local board relies chiefly on a single inspired and insightful individual to produce the strategic plan or on a committee of dignitaries that represent the broad range of diverse stakeholder interests. A strategic plan, no matter how well-conceived, simply will not implement itself! To have a chance of succeeding, key stakeholders must support the strategic vision and a diverse cadre of education and workforce

development professionals must help implement the planned activities. Ray Bramucci, Assistant Secretary with the Department of Labor correctly noted that "strategic planning for workforce development programs is all about building partnerships." While a plan should set the tone and direction, it will amount to little more than hollow rhetoric if it does not rally the "troops" behind it.

A good strategic plan will be both realistic and inspiring. While any strategy for local workforce development deals with future events, no one can fully anticipate all the possible contingencies and complex—and often conflicting—human motives. The plan provides an "educated guess" about what is possible and worthwhile. If the strategic plan calls only for outcomes that would result from simply continuing existing trends, the troops will see little point in putting forth any special effort. If the plan is overly ambitious because it deviates wildly from the local board's own baseline achievements in the past or the benchmarks set by successful best practices of some other local board that serves a similar population of eligible participants under similar labor market conditions, the troops may feel unnerved by the dismal prospect of failure and embarrassment.

To be successful, a strategic plan must be inspiring and realistic.

In this day and age when improvements in communications and free enterprise have democratized access to information, all players crucial to a plan's implementation potentially have vast amounts of raw data at their disposal on which to base independent judgments as they decide whether to follow, to figuratively sit on their hands or drag their feet, or to withdraw from the field. The leadership necessary for successful implementation of any strategic plan can no longer depend on command and blind obedience. Today, when decision-making occurs in the sunshine of increasingly intense scrutiny of an ever more well-informed and attentive public with ready access to much of the same data, leadership must take the form of persuasion based on effective use of the best available information.

In setting forth a vision, then, there is little else so valuable in the operation of the workforce development system than knowledge about the dynamics of supply and demand for appropriately skilled labor. Later in this chapter, we will explore more fully the notion of "labor market intelligence"—the blending of empirical information and "local wisdom." (See Chapter 6: *Using "Local Wisdom" in Regional Planning*, as well.) For now, we merely note that labor market intelligence serves as both a source of information on which to base a workable strategic plan and as the kind of sound evidence that can help mobilize support for the plan. While wisdom and experience are valuable attributes for local board members, local board staff, and One-Stop Center staff, they cannot replace knowledge of key labor market information.

Piecing together a viable strategic labor market plan requires specific knowledge in the following areas:

- the current **economic environment** in the region, past trends, and how the local economy might change in the future;
- the **needs of the intended resident customer base** and their barriers to employment;
- types of **education and training opportunities** available to potential job seekers, how that training relates to regional employers' **hiring requirements**, the descriptions and learning objectives associated with each program, and the "track record" or **performance histories** of prior cohorts of program exiters.

Most importantly, planners must know how to combine all of these elements into a single cohesive strategic service plan. Clearly, the best available data cannot solve all the challenges faced by One-Stop operators. By themselves, data do not train workers, eliminate their barriers to employment, or place them in jobs. Data, however, can form the basis of the knowledge needed to create a workable and effective strategic program plan that fits the region's labor market and addresses the needs of intended resident customers.

Supply-Side *versus* Demand-Centered Workforce Programs

Strategic planning for workforce development has historically centered on providing services to job-seeking customers. (See Chapter 8: *The Other Customer* for an in-depth discussion of employers *versus* job seekers as customers.) Traditionally, employment and training programs operated with a "supply-side" orientation. They focused on providing services directly to "participants" (resident customers) within the designated service region through contracts with a handful of preferred service providers.

Despite this job seeker emphasis, local boards invested remarkably little to gather disparate labor market information and thoughtfully synthesize, analyze, or interpret available data to generate a regional labor market profile or "story" as the basis for workforce development program planning. Indeed, this supply-side model often views collecting labor market data as merely a "necessary evil" for compliance reporting to the funding agent or as input to a biennial planning process to develop a priority list of "target occupations." Some workforce boards may have even disregarded such lists or riddled them with enough loopholes to use public funds even for occupations that exhibited only marginal demand. Certainly, many occupational programs have continued to be offered at the local level regardless of their connection to related employment demands.

The Workforce Investment Act of 1998 (WIA) emphasizes a more demand-centered model for service development. A demand-centered system places *employers* in the preferred customer group—much more so than under the more traditional approach. In other words, *the direct human resources needs of employers become just as important as the needs of the service-eligible population* and the fiscal interests of service providers. Other essays within this monograph address at length several of these demand-centered strategies, such as the use of business services representatives responsible for working directly with employers on a wide range of human resources issues. (See Chapter 8: *The Other Customer*.)

Under WIA, employers' human resources needs are just as important as the needs of service seekers.

Demand-centered services offer several advantages over their supply-side counterparts. Recent studies of the effectiveness of supply-centered employment and training programs do not paint those programs overall in favorable light. They report a dearth of employer involvement in the planning process, classroom training targeted to occupations for which there is only marginal demand, and inadequate feedback as to whether resident customers succeeded at their jobs once placed.

The demand-centered approach to treating employers as direct customers, on the other hand, helps build the type of relationship necessary to engage them in more traditional activities—such as serving in leadership roles on local workforce boards and providing employment opportunities to program participants. The demand-centered model also emphasizes the fact that regardless of where or how preparation takes place, all workers must compete within a labor market. It offers a philosophical "win-win" by helping employers meet their human resources needs while creating opportunities for disadvantaged and dislocated residents who need assistance.

The desire to help resident customers lies at the heart of both supply-side and demand-centered planning. Although stated in various ways, the broad social and political goal of workforce development—the agenda that drives the federal funding stream—is to prepare and place individuals in stable, rewarding employment. A critical part of designing successful services, then, involves identifying and accessing jobs with skill and background requirements that participants can acquire. Both supply-side and demand-centered models must use labor market information to analyze the demand for and supply of labor in the region according to industries, occupations or skill sets, and employer hiring requirements in order to identify appropriate jobs and provide the necessary instructional venues to attain them. In addition, program operators must keep abreast of the dynamics or trends in the local labor market. Knowing as much as, or more than, regional employers about the state and regional labor market can help local board staff open the dialog with them—a dialog that lies at the heart of the demand-centered workforce development model.

The following section deals with this critical component for all strategic workforce planning—the availability and application of labor market intelligence. Whether local boards use a supply-side or demand-centered approach, effective strategic planning requires information about the structure of regional employment.

Labor Market Intelligence: A New View of LMI

Historically, bits and pieces of data about labor market activities were known collectively as labor market information or "LMI." This term has connoted a narrow set of labor market employment statistics used to describe general industrial and occupational composition and trends. Local workforce development program planning or operations treated LMI as largely irrelevant for a number of reasons. Aggregated to state or national levels, it was too general to affect local planning decisions. Conventional labor market information also was frequently considered unfathomable and untimely. Moreover, LMI seemed generally unavailable since it was often buried in specialized journals or thick, hardcopy books of statistical tables that were not widely circulated. In a fit of wishful thinking, labor market specialists tagged the word "system" behind "LMI" when, in fact, there was little standardization in the collection of the data; little agreement about how it should be coded, organized, and analyzed; and little coordination in its dissemination. It is not surprising, then, that strategic plans often failed. They lacked adequate grounding in marketplace reality and/or leaders could not marshal the convincing evidence they needed to rally the troops.

Recently, however, analysts have begun to use the acronym "LMI" to refer to "labor market intelligence." The use of the word "intelligence" conjures up an entirely new perspective on employment-related statistics, one akin to the use of the term "intelligence" in military operations. A successful military campaign depends on accurate and thorough information. Without detailed knowledge about enemy positions, weapon strengths, and battlefield topography, a military operation could be disastrous.

Like a military campaign, a workforce development plan needs accurate intelligence about the environment.

Similarly, in the private business sector, the equivalent to "intelligence" is "market research." Market research gives a business critical information about consumer tastes and preferences, the disposable income and buying power of target audiences, competitor products and market segment price elasticity, and so on. Without this type of information as a critical part of a business plan, most companies would not remain profitable very long.

Just as information about the external environment and the stakeholders is so important to both the military and for-profit firms, it is equally critical in the public sector—particularly in the operation of workforce development programs. The labor market has become so complex, in part due to global economic integration, that a strategic blueprint for setting forth and achieving regional workforce development goals is necessary to mobilizing the community resources critical for success. At the risk of belaboring the obvious, it makes terrific sense to use labor market intelligence in devising a regional workforce development strategy. We find it necessary to set forth this truism because all too often local boards and councils fail to take LMI seriously, neglect to apply it in their planning, and draft strategic plans that remain largely disassociated from the realities of the local labor market.

What Is Labor Market Intelligence Anyway?

Labor market intelligence is not dissimilar from labor market information. The key distinguishing feature is that the term "intelligence" implies an extra level of experience or theoretical knowledge that is used in the interpretation of basic statistical data. Loosely defined, labor market intelligence is both statistical and qualitative information that describes the structure and dynamics of labor supply and demand. In a nutshell, it is any data that describe employment patterns, demographic characteristics of the labor force, differential labor market participation rates of various customer subpopulations, information about the education and training environment, and the relationships and interactions of each of these factors upon the others. More recently, program performance data (follow-up research) have been included under this umbrella because fundamentally they describe the relationship between workers, their education patterns, and their employment outcomes. Unfortunately at the moment, program performance data, generally housed within an agency management information system (MIS) are collected in only a handful of states and almost exclusively on persons who have received publicly-funded education or workforce development interventions and are not available on the universe of labor force participants.

Without planning, reform is a journey without a road map. Without follow-up, it is a journey without a compass.

The decade of the 1990s witnessed tremendous changes in the nation's statistical systems. Indeed, the introduction of new technology, legislation, and state consortia dedicated to improving key aspects of the labor market information system have fostered the switch from the simple concept of "information" in favor of the more robust term "intelligence." The WIA in particular mandates many changes in the collection of labor market data, moving the data beyond "information" to "intelligence."

Pursuant to WIA, a Workforce Investment Council comprised equally of federal and state representatives was created to conduct a thorough and exhaustive review of how to structure and fund the federal labor market information system. Its initial report in the Fall 1999 resulted in a strategic plan for an LMI system—a true system for gathering and disseminating intelligence, complete with detailed goals and specifics about what resident customers expected to see in a variety of automation products. This new system vision includes less parochial or compartmentalized data gathering and more data elements, such as Unemployment Insurance (UI) wage records-based follow-up data, which are critical tools in the design and execution of a strategic plan.

WIA calls for a true LMI system, complete with goals and specifics about automated products for all customers.

Improved technology makes possible much of the transition from information gathering to intelligence. The same kinds of technological innovations that improved service delivery, program enrollments records, and program eligibility determination also are beginning to change the fundamental nature of labor market data collection and analysis and the role empirical data play in guiding daily program operations. While the historic collection of labor market supply and demand data continues to assist the process of targeting key industries and occupations for potential training, often these data have been less than complete. In fact, due to limitations in data collection especially on the supply side, supply and demand analysis has provided a more obvious indicator of where *not* to invest education or workforce development dollars than as a positive signal of where skill shortages actually exist.

Today, labor market intelligence, thanks mainly to these improvements in technology, has begun to take many innovative forms. In addition to statistical data and qualitative, impressionistic information that existed previously, now you can collect information on some actual labor market transactions in real time (e.g., as job openings and résumés of potential job seekers posted through electronic labor exchange venues). With Internet technology and new public services such as the *America's Job Bank (AJB)* and the *America's Talent Bank (ATB)*, you can collect, parse, and analyze these "transactional data" as you want. Soon you will be able to use aggregations of this constant flow of real-time labor market activity to identify "hot" occupational or skills areas. While these data may not represent all labor market transactions in a statistical sense, the increasing richness of the database (more and more job listings) and real-time nature of the information make them a valuable new indicator for job placement opportunities. (It is worth noting, for example, that actual job postings on the *AJB* passed the one million mark in June 1999.)

Even anecdotal intelligence collected via surveys has grown richer and more useful through the use of technology. Rather than collecting testimonials haphazardly at the beauty shop or family picnic, automated telephone telemarketing methods—similar to those of opinion polls—facilitate frequent and timely collection of views directly from labor market stakeholders. While these polling data do not measure up to the rigorous rules for making statistical inference about the universe of subjects from an adequately large and random sample, they can represent potentially useful broad scale opinions about certain aspects of near-term labor market dynamics.

As an example of the influence of anecdotal labor market intelligence, let's assume that 25 employers in a region manufacture electronic components. Through the use of automated telephone polling techniques, a survey analyst might ask questions regarding current openings, wages, or other characteristics of employment conditions at each firm. In this scenario, assume that the analyst receives 10 responses which, combined, predict 100 job openings for electronics technicians locally within the next six months. Under the rules of statistical inference, the analyst would wonder how reasonably those responses mirrored the expectations of all twenty-five employers in the region.

When validated against other data and interpreted properly, polling data can serve as an indicator of market dynamics.

In this example, the opinion data indicate that regional employers expect a *minimum* of one hundred job openings. We should be able to assume that if these 10 employers expect 100 openings, that all 25 firms combined should have more than that. However, since these 10 informants may not represent all local electronics manufacturing firms, it would be stretching the validity of the data to forecast any precise number of openings locally. But the reasonably certain knowledge that *at least* 100 job openings should be coming available does make a useful indicator of local market activity. Especially when validated against transactional data and other more statistically robust data, polling data can serve as yet another indicator of labor market dynamics, *if interpreted in proper context.*

Lastly, MIS no longer remain in the exclusive domain of computer operators isolated from program planning and management. Legacy administrative records databases such as the UI files, master employment service applicant files, college enrollment files, etc., used to be maintained in separate and relatively inaccessible management information systems designed principally for compliance reporting. Today, program staff from operations and planning, as well as researchers, mine these data electronically with increasing regularity.

Analysts, for example, use electronic record linkages to generate useful statistics such as new hire and labor turnover rates for industries, training program performance data, earnings and job retention patterns, career paths or progressions, and so on. Indeed, a wide variety of data items now are being extracted from separate and distinct legacy management information systems to be warehoused electronically in mutually accessible databases. This data warehousing facilitates the cross-program comparisons and collaborative inter-agency planning now required by conforming amendments in various federal workforce development, education, and training and welfare reform legislation. Again, while these data do not serve as a panacea for labor market analysis, they can provide exceptionally powerful tools for describing and forecasting labor market activity, when used in tandem with other data.

Is There Too Much Information?

For the first time in modern employment and training program history, labor market planning has become less about the general *availability* of information and more about selecting the most *important* information items available and adding interpretive value to guide individual and program decision-making. Major investments have been made at the federal level to create the America's Labor Market Information System, a series of individual state-led consortia initiatives to address some of the most pressing challenges in the creation and dissemination of labor market intelligence. Improvements in technology, such as the Internet, have brought about a democratization of knowledge that assures ready access to both government statistics and employer-specific information. Try the Internet website *www.uselessknowledge.com* if you have doubts about the amount of data available! In fact, ready access to vast amounts of information can be overwhelming, especially when information is contradictory or conflicting and relies on a myriad of—often undocumented—methods and sources.

Today, labor market planners must carefully select the most important information from the plethora of data available.

When confronted with this morass of information during the strategic planning process, the questions of greatest concern to ask yourself are:

- What types of information do we really need to plan for and operate a regional workforce development system—and are *those* data available?
- Which specific statistics or data items are pertinent, useful, and actionable?
- What process, techniques, or interpretations do we apply to raw data to make them best serve our needs? In other words, how do we turn raw data into meaningful intelligence *and* apply that intelligence within a planning, counseling, or case management framework?

Answering these questions will enable you to select the most pertinent data to create an effective strategic plan, one that will find the support needed for implementation.

Strategic LMI Planning Issues

Now that we have established the importance of strategic planning and the critical role that labor market intelligence should play, we will seriously address specific issues regarding strategic planning as a whole and the use of labor market intelligence in particular.

The following passage prefaced a publication titled *Jobs in the Private Sector: Use of Labor Market Information*. Although the Department of Labor (DOL) published this monograph in October 1980, the structure and planning requirements introduced in the WIA offer a similar challenge to local workforce development board (LWDB) staff. Even as early as the 1978 revisions to the Comprehensive Employment and Training Act (CETA), the DOL recognized the importance of labor market information and the role that employers might play in making CETA programs successful.

> In March 1980, the Labor Market Information division of the Employment and Training Administration (DOL/ETA) convened a special workgroup to discuss the need for training Private Industry Council (PIC) staff in using labor market information to identify private sector job opportunities. The discussion focused on two issues: (1) many PIC staff members are unfamiliar with the sources and uses of existing LMI, and (2) in response to recent legislation, many PICs are conducting employer surveys to identify worker requirements. A major concern was that the PIC would conduct a survey which duplicates existing information.

Such surveys inadvertently could create confusion, interfere with established data collection programs, or over-burden employers. Moreover, in areas where a special survey could be justified, a concern was that many PICs lack the technical capability to plan and execute a meaningful survey.

Even two decades ago, the DOL was mindful that LMI is important in workforce development planning but that employer surveys are complex and perhaps not the best approach to gathering data. (See Chapter 7: *Getting Started* for a discussion of a proper approach to involve employers and minimize the role of employer surveys.)

Planning and implementing local workforce programs under Texas House Bill 1863 of 1995 and the WIA have become more complex than under previous employment and training legislation. In an effort to streamline the system and eliminate duplication, House Bill 1863 and the WIA consolidate several programs and functions that different agencies previously administered—sometimes with little integration between the respective staffs, data systems, and physical facilities. As a consequence of state law, local workforce development boards are responsible for a staggering number of federal program services and activities, which include:

WIA holds local boards responsible for a staggering number of program activities.

1. **Basic Labor Exchange**, or Employment Service, operations planning and oversight to match persons without jobs with employers in need of skilled workers
2. **TANF Work Activities,** under welfare reform, to help recipients of Temporary Assistance for Needy Families (TANF) benefits to transition from the welfare rolls to productive employment under a "Work First" concept, including **post-employment services** to improve job retention
3. **Skills Training**, to use eligible, performance-verified training providers to deliver basic education, classroom occupational skills training, and on-the-job skills training reimbursed through individual training accounts
4. **Self-Service One-Stop Assistance** in job counseling and job search, job seeker eligibility determination, program enrollment, and support services
5. **Child Care Services** and other essential core support services

6. **Employer Services**, to help local employers with applicant screening and referrals, rapid response services for dislocated workers, job development, recruiting and retention, marketing of the LWDB Job Bank, and job listing services

7. **Operations Management**, to maintain daily operations, including plan submission, physical facilities, internal management information systems, payroll, accounting, staff training, and so on.

Headlining the regional strategic planning process must be an overarching mission statement for the local board itself. A mission statement must recognize that, through service providers, the local board will supply a wide range of integrated workforce development services to all residents and employers in the region (the One Stop system envisioned under WIA refers to the "universal customer"). Each of these specific program activities, however, will require different types of labor market intelligence and need different automated tools and technology to take advantage of the available information. In essence, each of these program areas covered in the local board strategic plan deserves its own "strategic vision" for using LMI to meet program objectives. In addition, the "operational plan" should detail possible information partners, specific strategies for using LMI with both resident customers and employers, specific databases to acquire, information items or publications to use, and analytical tools to incorporate. Finally, the plan should describe how to use these components in the context of providing effective workforce development services.

WIA Strategic and Operational LMI Plan Basics

The Workforce Investment Act did not magically appear on the legislative scene. In fact, this piece of bi-partisan legislation was several years in the making. Considerable thought went into each of its provisions. While the Act's actual language is sometimes complex, the underlying premises are clear. WIA's goal is "to give American workers the chance to equip themselves with the skills and information needed to compete in the new economy, and to help workers take responsibility for building a better future for themselves and their families." Senator Jim Jeffords, a key author of the legislation, explained that seven key principles guide WIA. These principles are to:

1. Streamline services to all customers; maximum service availability with minimum "red tape."

2. Empower individuals to take responsibility for their own career development.

3. Provide universal access to services for all customers, not just the disadvantaged or some unique target group.

4. Increase accountability and foster more local control and site-based decision-making of program operations.

5. Claim a strong role for local boards and the private sector—groups that best understand local workforce development needs.

6. Offer state and local flexibility regarding program operations and administrative practices.

7. Improve youth programs, including those for youths who no longer attend school.

All local workforce board members should keep these principles in mind as they draft and implement a strategic plan.

Consolidation of programs under Texas House Bill 1863 of 1995 and encouragement by the WIA has indeed given local boards increased flexibility over how to run a program at the local level. With that increased control, however, has come direct responsibilities—and significant accountability—for many previously independent federal programs. Both pieces of legislation presume that local stakeholders are better informed about local labor market conditions and trends than state or federal officials and thus can better determine how to deliver programs. Whether creating the overall guiding program blueprint, or strategic plan, or managing the daily decisions involved in operational planning, there are several primary uses of labor market intelligence.

Basic Strategic Planning Functions and Relevant LMI

1. Policy Decisions Information about industrial and occupational employment alerts community decision-makers to emerging problem areas and helps pinpoint alternative courses of action. It also helps them choose among alternative policies and programs. Solid information about the current industrial structure—e.g., which industries comprise the regional economy, their size, markets, and growth patterns—is critical to making sure the right mix of stakeholders are brought to the table when discussing policy issues.

2. Strategic Planning "Big picture" strategic workforce development planning requires regional economic knowledge that spans multiple time frames since it guides both short-term placement and labor exchange activities, as well as longer-term vision. Current employment and job openings data can help identify areas for immediate attention, e.g., short-term plans for job placement for welfare clients. More importantly, however, labor market intelligence can help local boards develop a longer-term framework depicting where the region is headed economically, where the area's economic competitive advantages lie (the "growth poles" or export industries in the

region), how economic development activities can enhance the regional economy, and where the need for an educated and skilled workforce fits into each of these concerns.

LMI can help put the regional economy in perspective relative to the state, national, and global economies. It can describe the composition of the regional economy and explain the economic fundamentals that underlie recent and historical employment changes. It can catalog existing training programs and educational opportunities and help evaluate the region's need to enhance or diversify those education and skill acquisition options. In short, the economic information needs of strategic planning go far beyond creating a list of targeted occupations or identifying current "hot" jobs.

3. Curriculum Development Analysis of the occupational characteristics and hiring requirements of various job opportunities assists educators in identifying and developing an education or training curriculum. Growing industries or product markets and technological or process improvements continuously alter the nature of employers' skill requirements. These changes affect the educational and vocational preparation requirements of current and projected job opportunities and provide educators with the information necessary to adapt program content to meet the needs of the changing labor market.

Data items pertaining to short-term worker shortages or current openings do not aid in curriculum development. The process of producing a supply of appropriately skilled graduates in some fields often takes several years. Thus, a list of "hot jobs" means less to educators or persons embarking on a longer term educational journey. The pipeline to future demands cannot be reconstructed on a moment's notice and cannot be tinkered with every time a momentary hiccup in demand occurs. Indeed, by the time an adequate pipeline is built, today's job openings will have been filled and new opportunities in other fields, including emerging and significantly evolving occupations, will have presented themselves. Curriculum development and construction of an education and skills training pipeline to feed the evolving regional economy require data with a much more distant horizon. They also require labor market intelligence at more detailed levels since curriculum developers must break down general occupational tasks and duties into measurable essential elements and learning objectives.

Since it can take years for the education and training system to produce skilled graduates in some fields, planners need to know future demand, not current "hot jobs."

4. Career Guidance and Development Intelligence on occupational characteristics and trends is a basic tool for case managers, guidance counselors, and other intermediaries to assist job seekers and students in making informed education and career decisions. Knowing which jobs may be available and their hiring requirements enables students and those undergoing career transitions to choose more realistically. Because of the lag time between acquiring education and skills and actually entering the labor market, it is less important to the guidance or career exploration function to have *currently available* job listings than to understand longer term employment trends, occupational characteristics (such as education required, skills standards, temperaments, abilities, etc.), and sources of available training options.

Successful career development requires more than just preparation for occupations that are likely to be hiring. A person's interests, abilities, and work values must match the selected career opportunity. Thus, necessary labor market intelligence must include the availability of assessment batteries and career exploration materials to help a resident customer form a reasonable individual action plan.

5. Job development and Placement Labor market intelligence plays a major role in job placement activities. LMI can reveal the industries where employment in particular occupations is concentrated, the industries where job openings occur, and even the firms likely to need workers in certain occupational categories. This identification of employers with job-opening potential can help structure an employer contact program to solicit openings for qualified job applicants and other local board activities. (See Chapter 5: *Where Are the Jobs?* for more about the targeting process.) The "work first" model—which places welfare recipients who possess a modicum of job skills directly into unsubsidized employment—advocates such contact with employers. For this direct placement function, the most useful LMI consists of a list of current job openings, "hot" or shortage occupations, specific skills shortages, and direct feedback about the success of the most recent job placements.

In the "work first" model, LMI such as current job openings can facilitate placement activities.

6. Job Search and Job Matching Activities A majority of residents walk through the Workforce Center doors for only one reason—to get a job! Labor market intelligence helps these prospective workers in two ways. First, information on current job openings and job search techniques enables job seekers to identify employers and industries in which their skills are in demand. Ultimately, that information helps job seekers obtain appropriate positions.

Labor market intelligence also forms the basis of employability training, which helps job seekers not only apply existing skills to get a first job but also to acquire additional skills and plan for subsequent employment. In short, it helps them plan a career, sometimes defined as the continuous acquisition of related skills, knowledge, and abilities and their application on a consistent basis. To best serve job seekers, Workforce Center job search activities should not only inform residents about job openings, but also instruct them about how the labor market functions so that future dislocations or job changes cause fewer difficulties and have fewer personal costs. The *Texas CARES* software, *Texas Job Hunter's Guide*, as well as related publications produced by Career Development Resources (CDR, formerly the Texas SOICC), provide this necessary employability information.

7. Follow-Up and Program Improvement Intelligence on the outcomes experienced by previous program participants can be an excellent indicator of the likelihood for future job placements, specific occupational opportunities, and expected earnings of newly minted graduates. Knowing what happened to past education and training program participants can help prospective students make more informed choices about their careers. This information benefits training providers—and the local boards that certify them—as well. Just as with any business, service providers and local boards need to know who "buys" their "product," how they use it, what features attracted them to it, and how they would improve it.

Follow-up research can answer questions such as who employs your resident customers (i.e., which industries or firms)? Do employers take advantage of the product's features (i.e., do residents find jobs related to their training)? Where are the employers (i.e., do resident customers find jobs in the local labor market or do they migrate elsewhere)? What earnings do participants receive in the marketplace (i.e., do you get a positive return on investment for your training activities)? Do resident customers remain employed and show career or earnings growth (i.e., retention or career progression)? Do they continue to acquire additional formal skills credentials? CDR provides automated follow-up information, based on record linkages with existing administrative databases, which you can use as proxies to answer most of these questions without conducting employer satisfaction surveys. (See Chapter 12: *Using Employer Surveys in Labor Market Planning* for more on this topic.)

A strategic plan that includes monitoring outcomes can use that follow-up data to make program improvements.

In any case, the feedback process is critical for continuous program improvement and, since the labor market tends to be volatile, provides a workforce board with a way to adjust the strategic plan continuously and modify program operations so that they are in sync with changing workplace requirements.

It is imperative that a workforce development strategic plan adopt a clearly articulated process for monitoring program activities, identifying resident customer outcomes, and integrating outcomes information into a process of continuous program improvement. (See Chapter 10: *Closing the Loop* for more on this topic.)

One final note on strategic planning basics and what LMI components to include with each stage in the process. Meeting minimum plan submission requirements differs markedly from genuinely planning for action. Meeting minimum requirements generally consists of filling out specific forms and supporting tables necessary for state-level plan approval—documents which tend to be generic, dull, and lifeless. Indeed, given the relatively flexible structure of the WIA, state level administrators–under the guise of "local control"—may be much less inclined to impose stringent, top-down planning guidelines. This attitude may apply equally to state strategic plan requirements for assessing labor market conditions. In this case, a minimum of documentation for compliance and formula funding purposes may likely suffice to meet requirements and receive funding. But the forms or reports required by the state will not provide a comprehensive blueprint for regional program operations.

Regardless of what the state requests, local boards may want to consider doing a more thorough job of strategic planning, especially in the area of labor market analysis. Planners may articulate a more worthwhile strategic plan—one that genuinely inspires appropriate action—in separate documents, each targeting plans for a different audience. These documents would market the plan to various stakeholders and customers, making a clear and widely disseminated public statement of the local board's vision and intent. In short, local boards should produce one or more working documents in addition to the minimum compliance documents stipulated in the formal plan approval process. This more inclusive strategic labor market plan is more likely to result in program success—whether or not State officials know of that more comprehensive planning process.

Local boards may consider developing separate strategic plans for their disparate audiences.

Going Beyond the Minimum Requirements

If treated as more than a compliance document, a strategic plan can be a powerful tool during implementation. All too often, however, local workforce boards shelve strategic plans to collect dust once the state-level funding agency approves them. They forget or ignore them until the program year closes out or monitors arrive to review local operations. (Try walking into any Workforce Center and ask how many front line workers, for example, have ever seen "the plan." Of those who have, how many understand it and believe their activities reflect it?)

Bad habits of yesteryear seldom drew serious consequences precisely because many local boards treated plans as just one more document on a checklist of required reports. Today, the costs of failing to realistically plan and account for changing labor market conditions are higher. Increased emphasis on accountability for results makes it imperative that local boards follow the adage, "Plan your work, then work your plan." This message must get through loudly and clearly to Workforce Center staff and to service providers. Unless the "troops" know that sound labor market intelligence drove the plan's formulation and that labor market results will play a prominent role in the evaluation of both the organization's overall performance and their individual job performance ratings, local boards are apt to see a lackluster continuation of business as usual, with perfunctory caseload processing as the name of the game. (See T. J. Bartick, *"Using Performance Indicators to Improve Effectiveness of Welfare-to-Work Programs,"* Kalamazoo, MI: Upjohn, 1995 for case study evidence of the importance of strategic planning in changing local workforce development staff attitudes.)

To succeed, local boards must follow through on strategic plan activities.

Simply reading the strategic plan will not likely inspire front-line workers. Just as the local board should create plans for various customers, so, too, must it convey its vision to workers in a targeted way. The state-required format for plan submission and approval may not convey clear messages to staff and service providers. Compliance documents may stuff crucial labor market data into required tables in technical appendices that only the local planner and reviewers at the state level see and understand. To make effective use of labor market intelligence during implementation, local boards should move LMI out of the technical appendices and make it come alive in the following ways:

- Make LMI accessible. Do not treat the plan and its underlying data as "trade secrets" or mysterious, invisible, and incomprehensible "black box" elements.
- Do not rely on sterile tables to present labor market intelligence. Insert graphs and charts where appropriate. Use colors to help staff, service providers, and job seekers better grasp the information. Give examples, vignettes, or real life phenomena to make the data more relevant.
- Reformat labor market data in a variety of ways to suit the differing needs of staff who must execute the plan, the training providers who serve job seekers on referral, and the job seekers themselves—including the WIA-eligible service populations, the general walk-ins, and the "virtual" customers who come into Workforce Centers or browse a website as a one-stop information source to help them make sound career choices.

Bottom Line

The bottom line is that sound strategic planning and the labor market intelligence that guide the planning process ought to be used—perhaps in different formats and through different modalities—to guide local board activities. A local board should consider the strategic plan's objectives as it approves education and training providers' applications for WIA certification. These objectives ought to lie at the heart of the counseling and referral process as case managers help WIA-eligible resident customers take personal responsibility for their economic well-being.

In addition, labor market intelligence ought to play a central role as the local board documents its performance in reports to state and federal agencies and informs the public of its successes. By making its labor market intelligence prominent in its work plan documents, the local board communicates to staff that it expects their efforts to have measurable results. By making its labor market intelligence prominent in its public communications, the local board signals that local communities should hold the local board accountable for an adequate return on the investment of tax dollars in the programs it oversees, in the context of its planned goals. Finally, by making labor market intelligence prominent in the strategic plan, the local board signals to all its customers that it has considered the needs of the community—resident customer and employer client alike—and the economic conditions of the region, and is taking action steps to respond to the needs of all stakeholders.

Using labor market intelligence in strategic planning sends a powerful message to staff, the community, and customers.

Chapter 5
Where Are the Jobs?
Using LMI to Identify and Target Key Regional Employers

By Richard Froeschle and Mark Hughes

To be sure of hitting the target, shoot first and call whatever you hit the target.
— Ashleigh Brilliant

Labor market information (LMI), especially information on job opportunities, is the principal objective ingredient in designing the structure and content of workforce development programs. The goals of a specific program may vary from preparing resident customers for first-time entry or reentry into the labor force, placing or retraining the unemployed, or upgrading the skills and opportunities of persons employed in substandard or unsatisfactory jobs. In each case, a critical part of designing a successful program involves identifying and accessing jobs with skill and background requirements that resident customers can acquire. Identifying these jobs requires using LMI to analyze local industry and occupational trends and conditions. This essay presents a step-by-step process for identifying industries and occupations most likely to provide job opportunities. Moreover, it introduces a new perspective on the targeting occupations process and the importance of doing a thorough economic analysis with respect to creating a regional strategic business plan.

The notion of targeting occupations is hardly new. In most regional economies, industries and occupations grow at different rates and thus do not offer either the same number of potential jobs or identical job characteristics or quality. Successful placement depends on identifying the occupations with openings. Indeed, every piece of federal workforce development legislation in the last thirty years has relied on some form of regional planning or targeting as a way to maximize limited workforce funding.

Targeting certain occupations has been the cornerstone of workforce development legislation for the last thirty years.

The Workforce Investment Act of 1998 (WIA) introduces an added twist to regional LMI planning. In the past, most workforce development planners understood that workforce development programs focused on providing services to the economically disadvantaged and to dislocated workers. Thus, the targeting occupations process traditionally sought to identify occupations in the local economy with labor shortages for which resident customers could be

trained. Both the WIA and Texas House Bill 1863 of 1995, however, make *employers* a critical customer group for local workforce development boards. WIA's focus on the "universal customer," referring to the eligibility of all residents, not just the unemployed or economically disadvantaged, also requires local workforce boards to provide services directly to the employer community. (See Chapter 8: *The Other Customer* for more on this topic.)

While all employers may be eligible for services, not all of them offer reciprocal benefits to the local workforce system in terms of providing job opportunities. Local boards should consider targeting specific employers based on the employers' current and forecasted need for labor—i.e., their ability to provide job opportunities for resident customers. Every local board activity contains some focus on demand-side efforts, e.g., job development or solicitation in an attempt to elicit employment opportunities for the unemployed. A major objective in this type of job development is to increase penetration into industry sectors that exhibit employment growth and offer future job opening potential but which do not presently post job openings through the public employment services, including the Texas Workforce Commission (TWC)'s *HIRE TEXAS* online service.

Local boards should focus on employers who have current or forecasted need for labor.

This essay presents an approach to analyzing a regional economy and prioritizing among key components of that economy to identify job openings. It provides everything necessary to know about the targeting process—i.e., identifying which employers the local board's business services representatives (BSR) should approach. It does not discuss how a BSR actually gets his or her foot in the door and "makes the sale." In short, this essay describes step-by-step how to use labor market intelligence (LMI) to develop a list of target industries and occupations so that local board resources can be used most profitably. It answers the timeless question: Where are the jobs?

Newcomers to the workforce development arena might wonder why such a prioritizing process would be especially effective, cost-efficient, or even necessary. After all, there have been job openings in practically every industry throughout the last half of this decade. Some "old-timers" would agree. Indeed, for some local boards, developing a list of target industries and occupations is nothing more than a state compliance activity—part of a strategic planning document that merely takes up bookshelf space subsequent to plan approval. This attitude may be convenient but eventually proves to be short-sighted and potentially fatal. (See Chapter 4: *Using Labor Market Intelligence to Guide Strategic Planning* for more about using LMI during strategic planning.)

It is true that labor market targeting is especially useful and necessary when economic conditions are declining or have disintegrated. But targeting industries and occupations can be beneficial any time both to job seekers and employers. Despite the low unemployment and general labor shortage situation evidenced in many regions of the state and nation these days, for instance, not all industries—nor all occupations or skill sets—are growing at the same pace. They do not all offer the same magnitude of job opportunity nor the same quality of working environment. To offer job seekers the best service, local boards should direct them to industries and occupations that seem to promise the best futures. A prioritizing or targeting process also benefits the employer—the "other customer." It helps regional program operators gain a first-hand understanding of labor market trends and conditions, making them far more conversant with area employers and therefore better suited to meet their needs.

Ironically, the simple answer to the question of "where are the jobs?" is generally that most job opportunities will occur in industries and occupations in which most of the current jobs exist. This phenomena stems primarily from "replacement demand," i.e., job openings created and filled in response to labor turnover. Another reason job openings occur where jobs have always been is the notion of "regional comparative advantage." Since a given region's employment structure and growth patterns depend largely on some unique regional feature(s) that makes it attractive to a particular industry, such as proximity to raw materials or labor supply, growth will likely occur in that industry as long as the comparative advantage exists. Therefore, while the media showers attention on emerging and evolving and "high skill-high wage" occupations, especially in the health services and technology sectors, the vast majority of regional jobs will come from indigenous expansion of those industry sectors that have previously managed to prosper in the local environment.

Where are the jobs? Where most current jobs exist.

Of course, the regional economy does fluctuate when at any given time certain industries or skills sets are in greater or lesser demand. Thus the answer to this perpetual question of job opportunity lies in the ability to identify strengths in the regional economy as they occur and to approach employers within those industries as potential "prospects" for your "product." To better understand the significance of this notion of the workforce development "product," let's turn to an entrepreneurial perspective of business.

The "Hot Prospects" List for Your "Product"

Think of those persons to whom you have provided education, training, and support services as your "product." If you were in a for-profit business, you would be very focused on your customers and rely on them to help you improve your product. Perhaps you'd like to know who is likely to "purchase"—or, in this case, employ—your product. You might also be interested in what they find attractive about the product, and what changes to the current product or alternative products could increase your overall market share or effectiveness. In short, you might ask if you have a quality product and, if so, who will buy?

Let's extend this analogy to the private sector notion of a "potential sales contact list." There are no guarantees that any specific customers will buy your product—certainly not if they are unfamiliar with the products and services you have to offer. Therefore, the sales contact list allows you to "pre-qualify" sales leads so you expend your limited staff resources contacting only those customers most likely to purchase your product. It is a list of the "hot prospects" among the employers in your area.

A workforce development "hot prospects" list focuses on employers who might benefit from local board services.

The process of piecing together a workforce development "hot prospects" list begins with a strong knowledge of which groups are most likely to benefit from your service. It replaces inefficient practices such as starting with "A" in the telephone book, consulting the local Chamber of Commerce membership list (the "usual suspects"), or contacting only those employers who have already found you. Instead, in the workforce development arena, you focus on any employer who is having difficulty finding qualified employees.

To identify those needy employers requires a basic understanding of the dynamics of your local labor market. At this point, LMI becomes invaluable. It can, for instance, help you distinguish between the different types of needs employers have. There are two ways in which job openings actually occur in the labor market. Job openings are created by (1) "employment growth," defined as the net addition to the number of workers currently employed, and (2) "worker replacement needs," caused by workers leaving jobs and thereby creating vacancies. It follows then, that a process for identifying job openings necessarily includes analyzing the growth and replacement needs among industries and occupations.

The following sequence of activities suggests a process of gathering and interpreting LMI that can be used to identify those employers most likely to have job opportunities and most likely to avail themselves of and benefit from

your services. In other words, this process results in the hot prospects list! Then your BSR can contact employers individually and hopefully "close" them as customers.

Following the steps listed below has several advantages over more random prospect selection methods. First, it provides a sequential organization or "cookbook" approach for analyzing the labor market so that even persons with minimal backgrounds in regional economics can perform an analysis. Second, *individuals* looking for a job can use this approach in much the same way that program planners or job developers do. Finally, this process is centered in labor market theory and thus has a firm foundation to fall back on if defending the results or the process becomes necessary.

Developing the "Hot Prospects" List

Development of the hot prospects list—the analysis of job opportunities—follows a logical sequence of activities. Essentially, it proceeds from industries to occupations, using growth and replacement needs as signals for indicating where openings can be expected. Why start with industries and not employers? Because jobs originate from industrial activity. Employment is, in LMI parlance, a function of "derived demand;" if there were no demand for a particular product or service, there would be no need for workers. Conveniently, most employer listings are organized both by region and by industry sector, so moving from industry to employers is easy.

Beginning the process entails using available LMI to isolate the "key leading industries" in which the possibility of job openings seems most likely. The key leading industries are those sectors which combine large overall employment size, greater-than-average historical and projected growth in both absolute and percentage terms, and high replacement need. Then, with specific key industries in mind, you can use additional contact strategies to search for jobs among the occupations associated with employment in those industries.

A "demand" occupation has many openings likely. A "targeted" occupation is a demand occupation that meets other local board criteria.

Once complete, you narrow the list of demand occupations to a list of occupations to actually target. The distinction between a *demand* occupation and a *targeted* occupation is important. "Demand" simply implies that large numbers of job openings are likely. A "targeted" occupation, on the other hand, offers both large numbers of expected openings and meets other criteria set forth by the local board. These criteria might include particular characteristics, such as minimum wage levels, education and

training requirements, and potential supply of workers available to compete for openings. Not all demand occupations will meet the local board's targeting standards.

With the list of targeted occupations in hand, workforce development staff can begin to contact individual employers—the hot prospects—in order to verify any anticipated job openings in each occupational area and the possibility of working with local board or Workforce Center staff to place job seekers with those employers. Staying with our private sector analogy, the actual "closing" or "point of sale" can only happen with face-to-face contact with individual employers, not in a sweeping analysis of any industry as a whole. Until an employer has actually confirmed a job vacancy, described the hiring requirements, job duties, wages and benefits, etc., and expressed a willingness to interview or hire your job seeker, a business services representative is merely "working a prospect."

Analyzing the data yourself will help you develop a strong sense of regional economic trends.

A simple word of encouragement is in order before we begin. There is nothing in local planning so valuable as developing a strong sense of regional economic trends by actually working through this data analysis process yourself. In some ways, it is like physical fitness—nobody can take a shortcut and still get the desired results. If you make an investment in understanding the data, however, that knowledge base can serve as the informational cornerstone for many future program pursuits.

The Hot Prospects List Process

A detailed approach for using available LMI to identify job openings and hot prospects in step-by-step procedure follows.

Step 1. Identify the Geographic Labor Market

The initial step in the job identification process involves determining the geographic jurisdiction of the local labor market—both its location and size. While the area of immediate interest may be a local workforce board region, a county, or a city, identifying and understanding job opportunities must occur within the larger context of the geography of economic activity that generates employment. That economic activity may occur in a geographic area somewhat different from a local workforce board jurisdiction, for instance. Once located, the geographic area should not be circumscribed too narrowly, excluding important businesses and industries that contribute to employment and providing job opportunities within a region. A search limited to city boundaries, for example, may overlook a large suburban employer. Such

narrowed searches often flaw locally-conducted employer survey efforts. The result is a fragmented labor market analysis that does not accurately describe the relationship between jobs and the labor force.

The Labor Market Area (LMA) and the Metropolitan Statistical Area (MSA) are logical, predetermined geographic building blocks for labor market analysis based on concepts of economic activity. Both represent aggregates of counties or townships that have a common demographic or economic link to a central city or hub of economic activity. Both the LMA and MSA are defined by the relationship between place of residence and place of work of the labor force. The primary consideration when thinking about geography and job opportunities is the ability of workers to accept new jobs without the necessity of changing residences or incurring unreasonable commuting distances. Neither all LMAs nor MSAs cover the same amount of territory. Each geographic configuration should ideally be determined by established commuting patterns rather than by actual distances. To avoid fragmented, incomplete interpretations of job activity, conduct analysis first at the LMA or MSA geographic level, then consider the small jurisdictions within that context.

Unfortunately, in many cases the geographic area of study will be the Local Workforce Development Board Area (LWDA), which may be constructed around convenient political boundaries and not necessarily aligned with regional economic or demographic forces. An excellent example of this problem is a large regional employer situated on the periphery of an LWDA border—in a county outside the jurisdiction—that contributes income and employment to many residents within your region. Although political considerations may restrict planners from selecting a geography other than an LWDA, you should still be mindful of the true distribution of economic and demographic activity and how it may affect the analysis.

LWDAs may represent political boundaries that do not align with economic or demographic forces.

Step 2. Identify the Industrial Structure of Employment

Having selected the geographic area for analysis, the job identification process then entails becoming familiar with the industrial composition or structure of the area, the employment levels among industries, and the employers among industries. Most regions have attracted employers and entire industries based on some "comparative advantage" available in the region. While analytical tools such as "shift-share analysis" are useful to identify industries which are growing based on some unique local or regional comparative advantage, it is necessary to research the actual cause of the advantage. (See Chapter 2: *The Impact of Globalization* for more on the subject.) Many comparative advantages are well-known to the community. Availability of a natural resource such as lumber or oil, the prominence of a university or other public institution, or proximity to

some geographic site such as a deep river port—each offers advantages to certain industries. Other advantages are more subtle, such as a given employer with strong historical or political ties to the surrounding community, and require more thorough analysis.

The size of an industry and the number of employers it contains can serve as an initial guide to key industries, as well. Some planners focus on large industries. Due to "labor turnover" and worker "separation," job openings will occur in almost all industries in the local economy. (See Chapter 1: *Learning the Language of LMI* for more detailed definitions of these terms.) Even if worker separation rates are uniformly low or assumed to be at a minimal level, the largest number of openings should still occur within the largest local industries. Stated simply, most of the job openings will occur where most of the jobs are located. Because of the volume of employment in large industries, separations will create a large number of openings. From that view, all large industries or industries with large establishments might be considered "key leading industries."

Local boards might focus on either large or small firms, depending on their preference.

Some planners and business representatives, on the other hand, have better success with small firms. In that case, examining the local industrial structure can identify industries concentrated with small firms that might be considered key leading industries and possible candidates for job postings. A frequency distribution of employment by size class, available from the TWC LMI department, shows which industries mainly consist of larger employers and those in which small employers tend to dominate.

You can use a variety of available LMI to analyze a region's industrial structure. Sources include industry employment data from *Employment, Wages and Contributions of Employers Covered by Unemployment Insurance* (ES-202), or the BLS (790) Current Employment Statistics data—both collected by the TWC LMI department. You can access much of these data through the TWC Internet site. Another source of industry employment and counts of business establishments at the county level is *County Business Patterns*, published by the U.S. Department of Commerce.

Step 3. Analyze Historical Employment Trends

Once familiar with the structure of local industrial employment, the next area in your search for job opening potential focuses on employment growth and growth trends. Specifically, it identifies where growth has occurred in the past for purposes of projecting continued growth trends. You should select base and target years that seem to best fit the overall trend of total industrial employment

over the past five years. Selecting appropriate time periods can be tricky, because it is critical to capture representative growth trends. If you analyze a period of several years using different quarters or months from each year in your point-to-point comparisons, seasonal or cyclical factors—rather than growth—may explain changes. Seasonal work, for example, especially affects regions with large concentrations of retail trade or tourism. Similarly, if you select one year from a recession period and compare it against a year from an economic boom period, you will very likely overstate the magnitude of any growth trend.

After selecting appropriate time periods, you can make simple calculations to identify the absolute and percentage change in employment by industry. Use simple ranking functions for different variables and different time periods to see if the same group of industries continues to rise to the top. By examining the historical trends of each industry's employment, it is possible to deduce which industries have experienced the greatest absolute growth or the fastest rise (percentage increase) in employment. Similarly, you can identify industries which have large numbers of employees, yet are actually declining. These rudimentary assessments require simple data manipulation yet prove to be quite valuable in targeting key leading industries.

Step 4. Interpret Current Economic Conditions of Area Industries

Although it is necessary to see where growth has occurred in the past, it is equally important to determine how those industries have been functioning in the more recent time period. A good place to begin is with the *Texas Labor Market Review*, a newsletter published by the TWC LMI department. The newsletter provides narrative analysis of Current Employment Statistics data on employment trends and the number of nonagricultural wage and salary jobs by major two-digit (SIC) industry; hours and earnings data; and macroeconomic indicators such as labor force estimates and the unemployment rate. A comparison of the figures for the recent month and for the same month in the previous year provides insight into how industry employment has expanded or contracted over the past year.

TWC's LMI department provides a multitude of current employment trends and other data.

Primary sources offer much information about recent local trends, as well. While statistical data can provide a sound foundation for regional economic analysis, the infusion of "local wisdom" by community stakeholders can provide excellent validation and feedback of trends identified through data analysis. Community business leaders, such as those participating on local workforce development boards, may have much to offer. Input from regional economic development professionals who are likely to have insight into

industry prospects for relocation or indigenous growth may be particularly valuable. Other local resources, including newsletters from the local Chamber of Commerce, Bureau of Business Research, Council of Governments, or other business organizations, can also lend the "local wisdom" critical in the interpretation of statistical data. (See Chapter 6: *Using "Local Wisdom" in Regional Planning* for more details.)

What types of information should be gleaned from these sources? When examining recent industrial trends, valuable data items include counts of new hires and separations collected quarterly by the TWC Workforce Division and counts of job postings and applicants posted with the *America's Job Bank* or TWC's *HIRE TEXAS*. In addition, other pertinent industry data such as the average weekly wage, industry market scope, service or export status, accident occurrence rates, or existing collective bargaining agreements may come in handy in the final prioritizing of local industries.

Step 5. Incorporate Employment Projections in the Analysis

After examining the current industrial structure and recent and historical trends by industry, a look at industry employment projections will provide a complementary industry perspective. Projections provide employment data by industry for a base year and a target year so that it is possible to calculate predicted absolute and percentage change and, thereby, identify where the greatest amount of industrial growth is expected to occur. In Texas, these projections are available from the TWC LMI department through their Internet website or, upon request, in hardcopy. Incorporating these figures makes your analysis more complete.

Step 6. Rank Local Industries According to Their Employment Potential

The next step in the process of identifying job opportunities is to narrow the list of industries which have the greatest potential for employment growth to a few key leading industries which can be more easily analyzed. The final result is the identification of specific three- or four-digit SIC-coded industries which experienced growth in the past and are projected to continue to do so in the future. This ranking is rarely difficult because there normally will be a limited number of industries that consistently stand out as having strong historical growth, current health, and a likelihood of future high demand for workers owing to growth.

You may consider other labor market factors when ranking local industries, as well. Descriptive data, such as the average weekly wage, may be useful in the prioritizing process by focusing on minimum earnings thresholds or other desirable characteristics. Knowing the types of job openings is also helpful. Most industry projections emanating from public workforce agencies, for instance, calculate both openings due to growth and those due to labor turnover. While the former generally offer better economic indicators for identifying target industries, replacement needs can also be important. Larger industries can be expected to experience a greater absolute volume of job openings, primarily due to replacement need, even when the industry is not growing in absolute terms. Combining replacement information with growth data will point toward several key leading industries which exhibit the greatest potential for employment.

Step 7. Identify Local Employers

After identifying specific four-digit industries with good growth potential, it is a simple task to obtain lists of employers within those industries. Simply refer to the employer database in *Texas CARES*, a career information delivery software product from Career Development Resources (CDR, formerly the Texas SOICC); the employer database linked to *TRACER*, a TWC LMI web-based product (Spring 2000); a new federal government website *www.acinet.org*; a local *Directory of Manufacturers*; a *Dunn and Bradstreet* listing of million dollar or middle level firms; or a Chamber of Commerce listing of local manufacturers to get names, addresses, and marketing scope of individual firms. Armed with a detailed understanding of the structure and dynamics affecting an employer's industry, the local board's business services representative or economic development agent is far more likely to gain the interest, confidence, and involvement of a local employer than someone who does "cold calls" without such preparation.

Local boards can easily use industry codes to identify lists of employers within each industry.

While completing a list of targeted industries and employers marks a major milestone in the targeting process, ultimately the issue revolves around occupational skills. The next logical step seeks to identify the types of occupations common among the targeted industries as a point of departure for additional discussion with employers.

Step 8. Analyze the Occupational Composition of Selected Industries

When facilitating job placement or determining critical skill shortages within the community, the analyst must next move from industries and employers to the occupations that comprise the work force of each selected industry. There are thousands of occupations in the labor market—many with similar work duties but different job titles and *vice-versa*. Reviewing the available LMI and identifying those occupations that represent the greatest reasonable expectation for employment will facilitate the process of examining all the individual occupations within an industry. An "industry-occupation matrix," which shows the occupational composition of each industry, is ideal for this task. To obtain such matrices, often in electronic format, contact the same public workforce development folks that create occupational projections. Internet-based matrices are available through the *TRACER* system or CDR's *SOCRATES* system.

Expanding occupations in expanding industries offer the best chance for long-term employment stability.

When attempting to train and place individuals in jobs, it is generally easier to attempt placements in expanding occupations within expanding industries—all other factors being equal. Such placement will provide more long-term employment stability for resident customers, as well. If industries within the area are not expanding, then job stability and replacement demand become the primary criterion and occupations with the largest employment base make the best potential targets.

When considering occupations, analysts should determine how many jobs exist for each occupation within the key industries, which occupations have the largest number of jobs in those industries, and in which occupations future job opportunities will most likely occur. The occupational composition of employment within industries, taken from the Occupational Employment Statistics (OES) matrix, will help establish which occupations make up employment within a particular industry and in what percentages they are distributed.

Although these "industry staffing patterns" are usually available at the state level only, in most cases it is methodologically sound to apply those same staffing patterns to the local area. As contacts with employers will reveal, a number of firms within a given industry will often report on the same occupations, making it possible to identify the most commonly reported occupations within each target industry. In other words, some number of all the local firms which comprise a target industry will report having jobs in many of the same occupational categories. Commonly, if one employer in an industry experiences skills shortages, so too do many others.

Step 9. Analyze Occupational Projections

Just because an occupation exists within a growth industry does not ensure that it offers maximum growth prospects. In fact, an occupation within a growth industry may be declining in importance due to changing technology, production processes, business practices, reorganization of skill sets, and so on. Similarly, an occupation may be expanding significantly across many industries and yet have only a minor presence in the target industries in the current analysis. Information technology occupations, for example, often fall within that category.

A complete review of detailed regional occupational projections, even those outside the targeting process, may provide an alternate list of growth occupations that you may consider for final evaluation. A savvy analyst might also look at state and national projections to assess whether an occupation has growth potential beyond the local area. The ideal outcome occurs when you can *validate* that an occupation identified through the targeting process also has excellent projected employment growth across all industries and multiple regions.

Step 10. Consider Job Quality

To facilitate the best match between workers and jobs, the analyst needs to assess the quality and characteristics of occupations, not just the projected number of positions available. This process has great importance in both job training and direct placement activities. Before recommending training in specific occupations, for instance, planners should analyze the nature of the job according to the following criteria:

- transferability of skills within that occupation (including potential career progressions)
- job duties and functions
- basic hiring requirements for placement into that occupation (including ports of entry)
- pay range or average wage rate
- minimal or entry-level education and training requirements
- existing job openings
- current available supply (unemployed with skills)
- any firm-specific training requirements of potential local employers.

The same thinking applies to direct placement. Unless you plan to force a job seeker to take a job that he or she may abhor, you must match the resident's interests and job characteristics. Without such consideration, few job seekers will remain in the assigned occupations for long.

Assessing the quality of occupations becomes a two-fold process of reviewing and analyzing available LMI and gathering qualitative information through direct contact with local employers. Over the past ten years, data-driven occupational profiles have been increasingly automated within career information delivery systems. Such systems, generally used by high schools to guide student education and career exploration, adapt information from many sources to give students a better idea of what a particular career might be like. Examples of such systems include *Texas CARES*, used exclusively in Texas, and national products such as *GIS*, *CHOICES*, and *COIN*.

Other types of resources offer pertinent occupational data as well. The new O*NET database provides an especially useful set of occupational characteristics. It contains over 480 variables, including tasks, duties, and education or training requirements for each of 1,100 occupations. The O*NET also identifies specific knowledge, skills, and abilities associated with an occupation; fields of specialization within an occupation; and the level of importance and proficiency for skills required of workers in an occupation. In Texas, CDR has produced a software package called *OSCAR*, the first software package to fully integrate O*NET into a customer-friendly software system for front-line users. The data are so comprehensive that community and technical colleges now use it as a baseline for the drafting of educational curricula. Eventually, another classification system called the Standard Occupational Classification (SOC) system will link with and eventually supplant both the O*NET and the OES coding schemes. The SOC coding system will be introduced nationwide in the Spring of 2000 but data collected and reported under the SOC likely will not appear until 2001.

The SOC will eventually replace the O*NET and OES occupational coding systems.

You can find a great deal of occupational information online as well. Federal initiatives such as *America's Job Bank* and *America's Talent Bank* serve as large-scale, real-time "employment clearinghouses," indicating actual available job openings and potential worker supply. They also provide occupational descriptions. Many states have their own versions of these automated labor exchange systems, such as the previously mentioned *HIRE TEXAS* in Texas. Clearly, many electronic sources allow users to access available job openings, labor supply, and occupational characteristics.

Regardless of its source, information on occupational characteristics enables workers to evaluate occupations—the final stage in the targeting process. Such occupational intelligence gives prospective job seekers a good idea of whether their interests, values, and abilities make an occupation a suitable alternative. It also helps placement workers, whose goal is to best match job seekers with available jobs.

Conclusion

As you can see, this process of targeting industries and occupations is relatively simple and interesting. In fact, it can be quite rewarding to piece together available information to "tell the story" about the local labor market. More importantly, this targeting process allows you to prioritize within the local economy and leads you to specific industries and employers. Don't be surprised if, in answering the questions at each step, you develop a curiosity to know more about some specific sectors of your regional economy. After all, this approach serves as a mere introduction to a regional analytical process; there are many more depths to explore. Still, a job placement specialist or business services representative armed with only this level of understanding should be able to confidently contact local employers to augment the generic information already gathered on industries and occupations. Even better, she or he should be prepared to "close the deal" with employers by convincing them to post their job openings with your organization or otherwise avail themselves of your services.

Chapter 6
Using "Local Wisdom" in Regional Planning
Data-Driven Planning at the Substate Level

by Marc Anderberg, Norman Lewis, and Robin Campbell

A prudent question is one-half of wisdom. — Sir Francis Bacon

Virtually every state agency responsible for overseeing the investment of tax dollars in public programs has developed guidelines to help substate entities and local service providers conduct operational planning. Planning guidelines for employment and training programs are based on federal and state laws, derivative regulations, and comprehensive strategic plans. Such guidelines specify, in part, how substate and local officials (hereafter referred to as "local decision-makers") should use labor market data in targeting service delivery. The guidelines seek to optimize the expenditure of tax dollars to enhance economic development in each local area by bringing supply and demand for appropriately trained workers into balance while avoiding unnecessary duplication of effort.

State agencies supply much of the labor market data needed to drive substate and local planning. They do so for several reasons. First, many state agencies—especially those involved in employment, training, economic development, and business tax collection—are mandated to gather, organize, and disseminate labor market data already. Second, state agencies have the authority to spend administrative funds expressly set aside for that purpose. While local decision-makers may have discretionary administrative dollars at their disposal, they need not duplicate the state's efforts, especially since state agencies can achieve economies of scale and greater efficiency in data collection. Furthermore, state agencies may have the resources to recruit the technical expertise necessary for highly specialized labor market analysis and to make the analysis function a full-time job rather than an incidental or episodic task assigned to someone whose primary responsibilities and expertise lie elsewhere. Third, state agencies' involvement fosters consistency in key variables definition and collection. Consistency is essential when comparing data across programs and across substate regions. Finally, responsibility for overall strategic planning still resides at the state level.

For many reasons, state agencies supply much of the data that local planners need.

You may wonder why local decision-makers play any role in operational planning if state agencies prescribe the planning process and supply the data. Why don't state agencies themselves simply generate plans for all substate boards and local service providers? This paper explores the reasons local staff participate in program planning and their role in the process. It also describes how the infusion of such "local wisdom" and an understanding of the real world pitfalls of workforce development planning contribute essentially to the success of program design and delivery. (See Chapter 4: *Using Labor Market Intelligence to Guide Strategic Planning* for ways to use extant state- and federal-level labor market information during the planning process. See also Chapter 7: *Getting Started* for more about successful implementation of a strategic plan.)

The Value of Local Planning

Local decision-makers participate in the planning process for myriad reasons. First, local demand for services inevitably exceeds the resources that flow from federal and state coffers. At those times, local decision-makers, not state-level officials, must make the truly hard choices. Given the limited resources available, who among the eligible populations should they serve? Which of the permissible services can local entities really afford to provide? Which of the competing local vendors can most capably and effectively deliver those services? What, if anything, should they do to cover expenses not met with federal and state dollars: Increase local property taxes or the local sales tax surcharge? Raise tuition? Create a local special-use tax? Hold a bond election?

Local decision-makers take the heat—and the glory—for all these difficult decisions. They must answer when local taxes increase or when lack of capacity forces eligible persons to be turned away or under-served. They must defend their procurement process when vendors complain about being passed over in favor of a competitor. They receive sanctions if their programs perform poorly. On the other hand, they can be the beneficiaries of bonus and incentive dollars if their programs substantially exceed performance standards. Such rewards account for one of the most compelling arguments for local control. If local decision-makers ultimately are the ones responsible for program implementation and held accountable for results, then they should have commensurate authority for fine-tuning operational plans.

Since local decision-makers take the heat and glory for allocation decisions, they should have authority to fine-tune operational plans.

Quite apart from the philosophy of coupling responsibility and authority, there are practical reasons for local control. Local decision-makers are closer to the situation. They have a better intuitive feel for which hard choices will be politically palatable in the community. They know which key stakeholders' support will be critical to deliver services as promised.

Appreciation for local decision-makers' special expertise carries over into the data arena as well. Labor market specialists at the state level may have more sophisticated models and more powerful analytic tools, but the data at their disposal are either historic or hypothetical projections based on trends extrapolated from historic data. All other things being equal, their forecasts are pretty reliable on a statewide level. The devil, however, is in the detail. Because the key factors are not constant and equal across all labor markets, there inevitably will be wide variance from one substate region to another. Local decision-makers may be in a better position to explain localized deviations from broader trends because they have "insider" information. Such expertise provides another compelling reason for including "local wisdom" in planning guidelines issued by state agencies for employment and training programs.

Local wisdom is NOT inertia, political arm-twisting, or shoddy research.

But just what is "local wisdom"? Before answering that question directly, let's examine some behaviors at the local level that do *not* constitute local wisdom, though they purport to. Anyone who has played a role in local planning will recognize three common practices often disguised as local wisdom: (1) inertia, (2) political arm-twisting, and (3) shoddy research. A brief look at each will suffice to show that such behavior does not deserve to be called "local wisdom."

Inertia

A seasoned regional planner once observed that the three most commonly used tools in planning at the local level are the photocopier, liquid paper, and the rubber stamp. Indeed, the planning process in some places amounts to little more than photocopying last year's plan, using liquid paper to white-out last program year's dates, neatly typing in the upcoming program year's dates, and then "rounding up the usual suspects" who will wield rubber stamps in approval. While new planning requirements for Texas House Bill 1863 of 1995 and the federal Workforce Investment Act of 1998 have forced Texas planners to completely reformulate planning documents from previous years, the temptation to continue doing business-as-usual is hard to overcome.

At some point in the past, planners did wrestle with hard decisions and then struck a delicate balance among eligible populations demanding services and among competing vendors. That balance became the *status quo*, the underpinning of stakeholders' expectations, and the uneasy truce among political factions. To revive and re-examine long-buried decisions in light of new issues and circumstances seems fraught with risks—particularly when local decision-makers cling precariously to their incumbency.

Many planners take the line of least resistance and "let sleeping dogs lie." Circumstances and individuals foster this decision. Inexperienced planners, lacking the analytic tools or the self-confidence to use data to drive the planning process, find themselves particularly vulnerable to the temptation of inertia. Financial concerns also enter the picture. When administrative dollars are scarce and the incentive structure rewards tangible services, the planning department likely gets short-changed. In some cases, the planning department consists of a one-person staff; it may even be a seasonal job filled only two or three months out of the year by someone whose expertise lies in fiscal affairs or case management. Lacking any special training or necessary statistical software and database management tools, part-time planners must try to make sense of complex and detailed labor market information in relatively short order. When in doubt, they can defend the *status quo* because, with inertia on its side, people presume it sound. The burden of proof falls on the advocates of change.

Political Arm-Twisting

In some places, the competing factions of inertia and change are so evenly matched that the annual planning process becomes a battleground where self-interested stakeholders jockey to gain the upper hand. Even where the *status quo* represents a time-honored balance and truce, the time sometimes comes when new issues, changes in applicable laws and regulations, and/or shifting factional fortunes may be so pervasive that they force planners to do more than conduct business-as-usual. In such cases, local planners may be forced to abandon the photocopier and white-out. The usual suspects might not agree to rubber stamp their approval of last years' plan without substantial revisions.

When limited resources move planners out of inertia, stakeholders vie for access to valuable funding.

Where demand for program services exceeds resources, operational planning becomes a zero-sum game. That is, a decision to meet the training needs of one segment of the economy may result in under-serving another segment. Since available resources, i.e., grant funds, come in the form of a single block grant formula allocated every year, each obligation to spend money leaves less to

dedicate to other activities. Moreover, where there are fixed resources, every decision to target a specific industry or occupation results in another that does not receive the same priority.

When influential employers find occupations key to their needs left off an area's target list, they feel neglected. While it may be politically unpalatable for them to argue openly that they deserve to have their firm-specific labor and training costs underwritten with tax dollars, they will argue circuitously that their industry sector is more crucial to local economic development—and they will provide no shortage of less-than-scientific testimonials and anecdotal evidence to support such claims.

Similarly, a conscious decision to recruit participants from one segment of the eligible population may result in under-serving others. That, in turn, will elicit cries of neglect, discrimination, and disenfranchisement from those who believe that they came out on the losing end. Likewise, selection of one training vendor to provide services may deprive a competitor of student customers and, more importantly, the tuition, fees, subsidies, and vouchers they represent. The losing vendors may decry the selection process as biased and fraught with favoritism or conflicts of interest.

Sound data and rational planning models likely become casualties when stakeholders jockey to advance their self-interests without regard for the broader public interest as expressed in a program's mission and goals. Political arm-twisting in such cases may drive the planning process despite the reasonable inferences that can be drawn from the best available data.

Shoddy Research

Political arm-twisting, if too blatant, can backfire. If decisions appear too far out of line with available labor market information, it may be impossible to secure enough votes in the local entity to adopt the plan or to convince state-level oversight bodies to approve the plan. At some point, as a plan moves from the local draft phase to final state-level approval, someone will be asked to provide data to explain and justify the choices therein. If data supplied by state agencies do not support local decision-makers' preferences, then critics commonly launch a two-pronged strategy: 1) find fault with data provided by the state; and 2) substitute state data with the results of locally-conducted research.

State data are not infallible, nor is local research necessarily flawed.

Certainly, data provided by the state are not infallible and research conducted at the local level is not always flawed or biased. However, local decision-makers toss out the window fair, meaningful, and defensible standards for weighing the evidence when they begin with a partisan choice and work backwards to support it. They may exaggerate admitted flaws in state-provided data while overlooking serious flaws in "inspired" local research.

Criticism of state data ignores the fact that state agencies merely gather information submitted by local entities.

Local decision makers may "poison the well" by saying "You can't trust state data." But such arguments miss the point. While a state agency may supply electronic files to those on the local level, virtually all labor market data initially are entered locally by intake clerks, case managers, job placement officers, local training providers, or local firms' payroll and personnel clerks. State agencies, at most, serve as custodians of locally-generated data. State-level management information systems specialists may edit-check the data for completeness and obvious errors. State programmers may wrap application software around locally-provided labor market information to make it easier to analyze and understand. Neither group creates the data. Instead, data quality control ultimately is a local responsibility.

Another common ploy to dismiss state data is to proclaim that data are too old and out-of-date. This criticism, too, misses the point. Lag time plays a part of all research—even that conducted at the local level. "Freshness" of the data holds no more importance than the rigor in the research design used in data collection and analysis. This point rings particularly true when locally-conducted research consists of asking a small, non-random sample of self-interested stakeholders for their opinions; when, for example, five out of five truck driver school owners in an area agree that truck drivers ought to be on the plan's target occupation list. Even if researchers design the questions conscientiously, single snapshot studies may uncover momentary "hiccups" in overall trends—not new trends in themselves. No manufacturer in her right mind would alter her firm's production schedule based exclusively on yesterday's sales.

Yet local entities under political pressure often seem perfectly willing to design an education and training pipeline for the long haul on the basis of locally-conducted single snap-shot research that tells them what they want to hear. They gloss over their selective perception by asserting that they value the freshest data. They willfully ignore reasonable inferences that can be drawn from analysis of long-term trend data gathered through carefully designed and consistently executed longitudinal research.

Not all local researchers intend to deliberately mislead. At times, their efforts are well-intended but ill-conceived—what might be called "naïve research." In one instance, when state-provided data would not justify inclusion of hair dressers on a local workforce development board's target occupation list, the local board's planner turned to the job openings posted in the classified ads sections of area newspapers. He found that for four consecutive weeks fully half of all ads therein targeted hair dressers. He concluded that such employment demand warranted inclusion of hair dressers on the local board's target occupation list.

The research in this case was naïve because the planner—taking employment ads at face value—presumed that they indicated wide-spread demand. In truth, the area's beauty salon owners did not seek recent graduates of Cosmetology programs as paid employees. Rather, they ran the ads perpetually as a circuitous way to advertise booth space for rent and to raid their competitors' business. They wanted experienced hair dressers to "jump ship" and bring along their existing clientele. Consequently, what appeared to the inexperienced researcher as an indicator of employment demand actually amounted to little more than high turnover among experienced hair dressers as they moved from one shop to another. Meanwhile, recent Cosmetology graduates, by and large, could not find salaried positions.

A more experienced labor market analyst would have questioned more closely the reliability and validity of classified ads as indicators of employment demand growth. In fact, an experienced labor market analyst would not even use a frequency distribution of genuine job postings from the classified ads to drive a local plan because such ads likely represent neither an exhaustive listing nor even a random sample of all available occupational employment. Moreover, they depict current opportunities. When an actual opening is posted, it is too late to respond by tinkering with the education and training pipeline. By the time education and training prepare to address yesterday's demands, those openings will have been filled. Current occupational employment demand inevitably must be filled from the current "inventory" of locally available job seekers and/or workers "imported" from other labor markets or else the demand itself will either "dry up" or "blow away." That is, if employers cannot fill local openings promptly, they either stop trying to fill the openings and forego the related business opportunities or they relocate that portion of their business to some other labor market where they can meet their employment needs—increasingly off shore. (See Chapter 2: *The Impact of Globalization* for more about such relocations.)

Inexperienced analysts sometimes mar local data-gathering efforts.

At most, nimble education and training providers can react to current employment demand by offering less-than-semester length courses. "Planning," however, differs from "reacting." Planning has a more distant horizon—one commensurate with the time it takes to develop or modify a curriculum to address employers' changing needs and to move students and adult learners through an appropriate sequence of courses and/or work-based learning experiences. Rational and effective planning, therefore, depends on trend analysis and long-range projections—not momentary fluctuations in labor market activity as indicated (however inadequately) by job openings posted in the classified ads.

Objective, Fair Data Analysis

If inertia, political arm-twisting, and shoddy research do not represent "local wisdom," what is the alternative? In reality, local wisdom involves rigorous analysis of data—much of it state-provided—coupled with objective research at the local level. Local wisdom does not seek to contradict the data already supplied by some state agency or regional source but, rather, to fill in the gaps. Rigorous analysis of state-supplied data may include, but is not limited to, shift-share and input-output analysis.

Shift-Share Analysis

"Shift-share analysis" compares the proportions of employment in a single industry to that of the local economy as a whole. Specifically, it compares the proportions of an industry in a local economy, such as Dallas, to the proportions calculated for the United States. Where a local industry represents a larger proportion of total employment in the local area versus the nation, analysts say the region specializes in that industry. Thus, shift-share analysis answers many questions about the current status of the local economy, such as: What resources do various communities or neighborhoods have that likely give them comparative economic advantages over others in competing for a niche in the local labor market? To what extent are local firms ahead of or behind global, national, or statewide trends in their respective industries? To what extent are they caught up in or insulated from broader trends? To what extent do local businesses shape broader trends and lead their respective industries? What portion of aggregate trend data—e.g., the emergence of a new and unprecedented occupational cluster, results from local business activity? At what point, for example, will localized employment demand for an emerging occupation reach critical mass, necessitating a commitment of resources to develop and deliver a responsive curriculum?

Analysts use shift-share analysis to compare employment in one industry to the economy as a whole.

Input-Output Analysis

"Input-output analysis," on the other hand, provides a tool to examine the interrelationships among industries. An input-output model presents data on which industry sells to which other industries and from whom they buy their inputs or intermediate products. Analysts can use the model to estimate the multiplier or ripple effects of growth in one industry and identify which other industries will be most affected by such growth. Given broad statewide trends and local comparative advantages, how does a simple unit of change in one sector of the economy (an input) cause ripple effects throughout other sectors of the economy (outputs)? How, for example, will a new business or the expansion of an existing firm involving X employees and $Y payroll impact the local tax base? Will the new/expanded business rely on local providers for its banking, finance, accounting, and legal work, and so on? Can it depend on distant vendors or will it spawn spin-offs locally to provide supplies, parts and business services? Will its payroll be large enough and will its workers have sufficient disposable income to support new eating and drinking establishments or additional recreation and entertainment facilities, increase retail sales, and drive up demand for new construction and more personal services?

Input-output analysis can reveal how growth in one industry affects related industries.

Objective Data Collection

Objective regional data collection also is a necessary component of local wisdom. Known gaps in state-provided data should be filled not by asking self-interested stakeholders for their opinions but rather by seeking valid, reliable and verifiable evidence from neutral parties. Consider the strategies below:

Service Requests

Ask county or municipal officers if any firms have filed construction permits to build new facilities or to expand existing ones. Have any firms requested variances in zoning laws in order to expand their operations or to offer products and services in locations where they may have been prohibited in the past from doing business? What firms have applied for utility hook-ups? How much capacity do they want? What infrastructure improvements are they seeking? Such information should be a matter of public record.

Scouting Expeditions

Ask realtors and local bank officials what kinds of business are scouting the area for commercial space or making applications for business loans. Here, care must be taken to avoid any breech of confidentiality. A local planner does not need the name of the specific firms involved, only their industry sector and approximate size. Given this limited kind of information, a planner can plug into forecasting models to predict the likely occupational employment demands, multiplier or "ripple" effects, and potential impact on the education and training system.

Chamber of Commerce Briefings

Invite economic developers from the local chambers of commerce to brief you periodically on their prospects. Again, for the sake of confidentiality, focus on industry type and size rather than specific firm names. Be careful to sort out the real probabilities from the over-confidence and boosterism that may characterize information imparted by persons perpetually devoted to "closing deals."

Local Opinions

Add local opinion data to the mix if—and only if—you solicit it from a scientifically-selected and genuinely random sample of residents. If you use a survey instrument, make the wording of questions truly impartial and adjust the results for non-response biases. If you rely on focus groups, use a facilitator who has no direct interest in the results. Judge focus group opinion in conjunction with other sources of data rather than out of context. Be wary of asking both employers or residents to prognosticate or forecast future events. Most survey respondents are ill-prepared to do so.

Conduct local supplemental research as part of an ongoing effort, not sporadically or in the heat of the moment just before a plan submission deadline. Such research requires some delay from the immediacy of the planning process to draft impartial questions. The process itself takes time to: a) draw a random sample; b) pilot-test the survey instrument and revise it if necessary; c) engage in enough persistence effort to obtain a statistically sufficient response rate; and d) analyze the data. The individual selected to conduct local research should have no direct interest in the results, be dedicated foremost to the integrity of the data, trained in labor market analysis, and equipped with adequate analytic tools. Only this kind of commitment and integrity will enhance local wisdom.

The Proof Is in the Pudding

Ultimately, "the proof is in the pudding." Was the effort to gain local wisdom sincere or disingenuous? Have decision-makers tempered state-provided data with genuine local wisdom and blended the two into a justifiable plan? Do follow-up data provide *post facto* proof that the plan was reasonable; i.e., were the results achieved consistent with the local board's mission, goals, and objectives?

As a parting thought, it also is appropriate to suggest that the process of acquiring local wisdom should itself be subject to constant review and continuous improvement. What worked and what didn't? How much weight should be given to data gleaned from building permit, utility hook-up, and zoning variance requests relative, for example, to state-provided data or information supplied by commercial realtor and bank loan officers? Which economic development specialists can be trusted to supply accurate predictions? Which are prone to inflate forecasts? Just as labor market analysts at the state-level strive to fine-tune their models and tools, local planners should work to refine their own practices from one year to the next. Blending available labor market information with the insight of local wisdom can go a long way in the design and implementation of a successful workforce development program.

Chapter 7
Getting Started: Creating Momentum for a Targeted Labor Market Approach
Building a Local Consensus and Gathering Appropriate Data

by Robert McPherson and Richard Froeschle

Nothing will ever be attempted if all possible objections must first be overcome.
— Dr. Samuel Johnson

The Workforce Investment Act of 1998 (WIA) calls for greater participation on the part of employers to help guide local workforce systems and the services they offer. In most regions, the local workforce board brings to the table a critical mass of knowledge about a variety of workforce initiatives and a strong motivation to help build the regional skill base. Employers, meanwhile, bring management expertise, a "private sector" perspective, and a knowledge of the economics of their own firms. Despite this collective expertise, the process of "getting started"—building a consensus and action agenda among all public and private stakeholders—remains a complex task.

The local workforce development board's long-range plans should be firmly grounded in labor market realities. Since all workforce systems operate within the context of local demographics and industry structure, no strategic plan is complete without a strong understanding of the market forces and labor market trends within the region. This understanding can be viewed from at least two perspectives; that of a *resident* (e.g., job seeker, student) and the other of the *employer*. Thus, any mission statement should describe benefits to both customer groups.

Effective strategic planning requires a strong understanding of the local labor market.

From the employer perspective, the mission statement might read something like *(1) to make businesses and residents more competitive in the global economy*. This statement establishes employers as critical partners within the mission of the local board. Another statement might be *(2) to establish an engaged business community, provide timely labor market information, and create a regional workforce system dedicated to preventing major labor market imbalances.* Moreover, the specific inclusion of employers in the mission or vision

statement represents a shift in recognition warranted by the demand-driven approach to workforce services that has surfaced in the WIA and which this essay addresses. (See Chapter 8: *The Other Customer* for more about this approach.)

Achieving an employer-driven, i.e., demand-driven, workforce system depends on the local system's ability to establish ongoing relationships with area businesses and training institutions that foster and champion businesses' needs for skilled workers and provide residents with access to quality education, job training, and jobs. To build these "quality-supplier/purchasing-agent" relationships, the local workforce system must understand the needs of business, work with employers to problem-solve, and design solutions that contribute to employers' "bottom line." The appropriateness and quality of the workforce services you deliver will determine whether these relationships flourish.

There is little doubt that the local workforce system benefits from having comprehensive information on the labor markets operating in the region as the local board's representatives begin building the relationships described above. Employers in particular understand the impact of market forces and the importance of timely labor market information (LMI). But in this "information age" we must confront the sometimes daunting prospect of having too much information with too little relevance. As T.S. Eliot once asked, "where is the knowledge we have lost in information?" While we waste time endlessly gathering data, do we gain insight into ways to improve the regional labor exchange system? By selecting and combining pertinent statistical and qualitative labor market information, the local board creates timely labor market intelligence to guide decision-making, resource allocation, and so on. (See Chapter 4: *Using Labor Market Intelligence to Guide Strategic Planning*.)

Planning requires sifting through the vast quantities of available information.

The process of "getting started" or building local consensus involves first working with local employers to engage them in strategic planning and then beginning to collect appropriate labor market data to guide program operations. Characteristically, such a process often advances in fits and starts as each stakeholder's suggested steps or strategies must blend with the interests of other stakeholders and the level of local board funding. Given the enormity of the varied tasks assigned to the local boards, the diversity of stakeholders, and the paucity of resources relative to the challenge, devising a consensus plan and executing it in the context of a constantly changing labor market is easier said than done.

We wrote this essay with three objectives in mind. First, we want to raise the awareness of local board staff, employers, and other stakeholders of the complexities of collecting and using labor market information within the strategic planning process. Second, we suggest that a targeted approach is the most effective way to allocate limited resources—time and money! Third, we offer a step-by-step approach for developing consensus about which local industries and occupations to target as the local board seeks to address local workforce demands and effectively expend limited program resources. Too often, local boards spend funds on unnecessary or ill-defined employer surveys or waste precious stakeholder time. This essay proposes a measured approach to building the desired relationships with area businesses through the collection and interpretation of labor market information. We include a case study and sample data tables at the end of this discussion to highlight the fact that this process leads to tangible results.

Understanding Labor Market Information

Gathering and providing every conceivable economic statistic on a grand scale is neither economically feasible nor realistic. Planners should request only the most pertinent available labor market data. Still, many data users and producers have come to realize, often through trial and error, that communicating about labor market information can be challenging. Misunderstandings may arise.

To better understand the process of gathering relevant data in a local demand-driven workforce system, let's use a familiar analogy. In many ways, collecting or inquiring about labor market information resembles asking a realtor to show you a "nice house." The real estate agent could initially interpret such a request to mean a house of any price, of any size, in any neighborhood. Given this charge, of all the houses on the market, an agent might first show the homes that he has listed—the agent knows these homes well, making the task easier for him. In this situation, could you rightfully criticize a real estate agent who took you to a house that far exceeded your price range when you did not communicate that you even had a price range? Obviously, the interaction did not result in a successful transaction, but who do you blame for this lack of communication?

To gather pertinent data, planners must know what to ask.

Such a misunderstanding generally results in one of two outcomes: firing the agent and declaring him incompetent or developing a common expectation by clarifying your goals, price range, neighborhood interests, and so on. So it goes with labor market information. Rather than pronounce the data people inept because they don't "show you the right house," local board planning staff will find that clarifying goals and expectations will generally yield more useful and pertinent labor market information.

Since the labor market has so many facets, you can easily request information only to receive an answer that you did not expect—or want. Asking one group of experts about the labor market may yield a litany of the products or studies that they themselves produce (i.e., the houses that our fictitious realtor has listed). Another group may present an entirely different set of publications or data tables. Their interpretations of the same information may even be different! As in the real estate example above, the blame lies in imperfect information and lack of clarity in the request. To rectify the situation, workforce boards, employers, and other stakeholders need a better understanding of what labor market information really is and how it is commonly made available.

Barriers to Data Collection

Studying labor market information can be a complex discipline in and of itself. How experts define, collect, and present information often confuses neophytes. Most local boards new to the labor market data collection process will discover constraints or limitations in what seem to be simple tasks. The four major constraints in data gathering are:

1. Cost of primary data collection

Primary data collection involves gathering data first-hand from employers or individuals through focus groups or surveys. Most local boards rely on surveys but, regardless of their statistical accuracy, surveys tend to be extremely expensive and suffer from the requirement to replicate on a regular basis to maintain timeliness. "One shot" surveys simply waste time and money. (See Chapter 12: *Using Employer Surveys in Labor Market Planning* for more details.)

2. Timeliness in the face of rapidly changing labor market dynamics

Labor markets are increasingly volatile. Where once collection of a particular data item occurred annually, today the rapidly-changing market may necessitate quarterly collections to accurately portray trends.

3. Lack of common vocabulary among employers, local board members, and the labor market statisticians

Most local board stakeholders are unfamiliar with the jargon of the workforce system—much less the terminology of labor market information. Many statisticians remain woefully unaware of data requirements and jargon that appear in workforce and education legislation. Understandably, then, many well-intentioned people simply don't seem to communicate well when it comes to linking data and programs.

4. The emerging regional workforce system's lack of capacity to respond to employer needs and to identify critical data items

Newly formed local boards may yet be unaware of the expectations of local stakeholders, including which data items or labor market phenomena are most important to them. Only through dedicated dialog can a local board begin to distinguish what items are critical, which ones are important but expendable given a high cost of collection, and which items are simply interesting but not critical to local board activities.

To make matters even more complex, LMI is not a monolith of databases or products uniformly available in a single format. A history of increasingly challenging requests for more information has created the current diversity and inconsistency of LMI data products. In many ways, the nation's complex system of labor market information is the result of decades of attempts to improve the depth and breadth of requested data items. Often, these efforts had little to do with improving local labor market analysis and planning.

End users can perceive four levels or discernable types of LMI—each with strengths, limitations, and degrees of involvement on the part of the customer. Data producers, however, especially in the public sector, rarely distinguish among these categories; they, like real estate agents, offer their own listings without knowing the customers' needs. The data types, described in more detail in Table I, include raw data tables, existing off-the-shelf products, output ranges from statistical tables that customers can manipulate themselves, and the ever-elusive "no how, no way data," which are not truly available.

In theory, labor market information experts should assist in data gathering, reporting, and analysis. Unfortunately, most LMI experts tend to view themselves as information producers only. Thus, when asked to explain how they might help a local board, the experts tend to elaborate on all their publications and automated software tools both currently available and "in the works"—their "off-the-shelf," mostly statistical, products. While some customers may find these tools and publications of infinite value, the uninitiated see them simply as "slick" products that may or may not help them develop their plan.

Planners must ensure that LMI experts explain how their products help the planning process.

The reasons these products don't seem applicable are simple. Local workforce board members and staff usually ask questions that relate to *problem solving*, not to specific data products. LMI folks, on the other hand, tend to provide accurate facts—which may not directly answer specific questions. Not surprisingly, then, after a recent presentation to a mixed audience of workforce board members and staff regarding all the analytical tools and data products to

Table I
Data Types

1. Raw data tables	Detailed raw statistical tables, unformatted, ordered in ways convenient to the data producer or funding agent.
2. Existing off-the-shelf products	End user products designed to meet the perceived needs of customers, including hardcopy publications, software, Internet sites, newsletters, etc. Formatted in slick tables at detail levels and sorts based on feedback from users.
3. Self-manipulated outputs	Statistical tables, charts/graphs, analyses estimated by the customer using data from raw data tables or off-the-shelf products. Formats, detail, geography, etc. are chosen by the user based on task at hand. Also known as estimating, "teasing" the data, divining new data, "stretching" the data. Requires knowledge of labor market and economic analysis and the application of statistical techniques.
4. "No how, no way data!"	Certain data items are simply not collected through any public agency or program and thus are not obtainable from secondary sources. Lack of funding is the most likely culprit, followed by low importance ratings based on cost-benefit approach. While there is not a sound methodological basis for collecting all data items, certain data not readily available can be obtained through primary data collection by the customer, generally through employer surveys. For other data items, collection is simply impossible.

which they had access, the LMI expert received a universal response of, "O.K., that's great—but what are you going to do for us?" The presenter had not addressed the audience from their vantage point—*as customers with labor market questions*. The products and services offered actually contained most of the answers they sought; it just hadn't been pitched in a way that conformed to their questions or expectations. Moreover, the presenter mistakenly assumed that they possessed sufficient knowledge and interest to simply create additional, more problem-specific, information by stretching the data already available. Given these flaws in presentation, it is no wonder the local board began to seriously contemplate the desperate measure of doing an employer survey! Only when local board staff learn the language of LMI and data producers ask for customer input can the communication gap be breached.

Effectively Collecting Local Labor Market Information

Clearly there must be an approach to labor market planning that is economical, proficient, reflective of employer impressions, and which incorporates the stable of quality data products and services already available. The following "cookbook" method provides just that approach. It focuses on the demand side of the labor market and the process of targeting expanding occupations in "growing industries with potential labor shortages that offer good employment opportunities" (as a local board member might say). Not unlike the targeting process identified in the essay *Where Are the Jobs?* (Chapter 5), this model provides a step-by-step process which focuses on two or three key industries at a time. This "pilot testing" approach allows the stakeholders to gain confidence in the model, learn what works, and make any necessary modifications before broadening their relationship-building efforts. Chart I summarizes the steps involved.

Step 1 Set Your Objectives!

Gathering labor market data simply for the sake of having more information or because you think it is the "right thing to do" wastes time, money, and other resources. Since the information generated by collecting and analyzing labor market data is only as useful as the questions it answers, clarify the specific questions you want answered. How will you use this information: for analytical purposes, for improving current operations, or both? If you don't know the questions you seek to answer, how will you know if you have the right data? As Stephen Covey advises, "Begin with the end in mind."

Step 2 Identify the Information Needs of Local Stakeholders

Not surprisingly, those at the table with any local workforce board likely have multiple agendas. Step 1 helps the group focus on a single set of objectives common to all. This step lays the groundwork for collecting actionable information. It also requires you to visualize how your local information system looks. Ask yourself the following questions:

- What data answer the questions listed in Step 1?
- What tabulations and level of detail do we want?
- How should the final table formats look?
- How much of the final product should be automated *versus* hardcopy?
- How much of the information collected will we use internally and how much must we make available to the public?
- What format should the public information release take?

Chart I
Demand-Driven Process for Targeting Industries, Employers, and Occupations

Step 1	**Set your objectives!** Determine what program-related questions you want the data to answer.
Step 2	**Identify the information needs of local stakeholders** Determine what the finished product will be in terms of formatting, publication, use, and so on.
Step 3	**Use existing LMI to develop a target list** Examine existing databases and publications before collecting primary data.
Step 4	**Verify or modify the information** Contact local employers to validate existing information and identify occupations with labor shortages.
Step 5	**Identify the gaps** Review Step 1 objectives to determine if additional data are absolutely necessary.
Step 6	**Work with the local board to enhance its business services capability** Establish and maintain relationships with key employers in targeted industries.
Step 7	**Establish and maintain employer-led steering committees** Bring local employers from targeted industries into the decision-making process.
Step 8	**Make a decision!** Consider the costs and benefits of gathering additional data.
Step 9	**If necessary, conduct an employer survey** Use the public procurement process if additional data collection is necessary. Hire a contractor, develop the survey instrument, conduct the survey, tabulate the results, and use them as intended.
Step 10	**Review overall results and take the next steps** Make modifications where necessary, identify other key employers, and perhaps expand data collection efforts.
Step 11	**Document the results** Develop process and outcome measures to establish a continuous program improvement process.

- Must we collect specific compliance information items?
- If we want the data to help identify targeted lists of industries or occupations, which local groups will use the lists and for what purposes? (For example, local workforce boards focusing on marketing services under the "Work First" paradigm will have different targeting criterion than persons doing economic development.)

Thinking through these questions recalls the old adage, "how will you know whether you arrived, if you didn't know where you were going?"!

Step 3 Use Existing LMI to Develop a Target List

Why use existing labor market information? Primary information collection is expensive, highly technical, and riddled with opportunities for failure. Local workforce system operators commonly conduct surveys, yet an improperly conducted survey can easily result in "ungeneralizable" data and an utter waste of time and money. Unfortunately, many of us have close experiences with just such survey nightmares.

A major advantage to using existing labor market statistics collected under the auspices of the Bureau of Labor Statistics, Census Bureau, Bureau of Economic Analysis, etc., is the rigor with which these entities collect the data. The Occupational Employment Statistics survey, for example, requires employer response rates of seventy-five (75) percent or greater for publishable results. Anyone who has ever conducted an employer survey knows that obtaining a 75 percent response rate is exceedingly difficult. Thus, before embarking on any primary data collection initiative, investigate which of your information needs you can meet with existing labor market statistics.

When considering which available data sources to use,

- Review your list of questions to identify which you can answer using existing LMI.
- Narrow the scope of any further information-gathering activities based on questions already answered by existing data (i.e., "check-off" data items already collected and build a new list of needed mission-critical information items).
- Focus on expanding occupations in growing industries where apparent labor shortages might ensure good prospects for employment. In other words, work through a sound regional targeting process with a finite objective and end point. (See Chapter 5: *Where Are the Jobs?* for an example of such a process.)
- Identify regional employers that meet the criteria established in your objectives.

You can more easily achieve the first few considerations described above by partnering with persons skilled in the areas of regional economics or labor market information. Completion of this initial process should result in three accomplishments. First, you will have identified four to six key industry groups. Second, you will have a preliminary list of occupations with growth potential in the region and a strong notion of which local employers likely have job openings. Third, you will possess a *de facto* assessment of the attributes and limitations of existing labor market information. In truth, there is no better way to assess the strengths and weaknesses of the existing body of information than to undertake a structured analysis designed to meet your strategic planning needs and reveal which information items are still deemed critical and unavailable.

Translating the Data Requests Facilitates the Targeting Process

The targeting process is not always as straightforward as it may seem. Because the definitions and terminology employed by labor market economists and statisticians do not necessarily conform to common, everyday language, you may need to translate the prioritizing criteria identified by a workforce board with available labor market variables. The translation table or "crosswalk" (Table II) comes from an actual regional case study of this process with a local workforce board. (The detailed data tables from that case study appear at the end of this essay.)

In the case study, Step 2 required multiple data runs, each of which resulted in a different priority list of industries and occupations. Actually seeing the outcomes associated with each set of quality criteria or value judgements led to a series of iterations between local board members and technical staff before they could all adopt a final list. The iterative process itself, while improved by this exercise, was not exactly "smooth sailing!" Issues that arose included the desire to focus on occupations with career potential and on industries with job openings due to growth rather than replacement. (See Chapter 1: *Learning the Language of LMI* for definitions of these terms.) The technical staff had to explain that they lacked an empirical proxy for a career ladder and that they could only measure the concept of identifying job openings due to growth versus due to labor turnover for occupations and not for industries. In the end, we found that we reached consensus more easily when we translated information issues into concrete empirical questions with definitive answers through the crosswalk depicted in Table II.

Sometimes planners need to translate the language of LMI experts.

Table II
Sample Translation Table for Labor Market Prioritizing Criteria

Workforce Board Request Language	Labor Market Information Translation
1. High volume growth industries that are expected to provide the largest number of job openings (not just the fastest growing industries)	Industries with an employment level equal to or above the mean for all industries sorted based on projected percent growth rate from 1996-2006 for all regional industries
2. Larger industries that are still growing and projected to provide the largest number of job opportunities for local residents--maybe those where one in five hires is due to growth	Industries with a minimum of 5,000 employees OR with employment equal to or greater than 150 percent of the median employment level for all industries in the region AND with an above average growth rate for the region. (Total new hires by industry can be measured but there is no distinguishing which new hires are due to growth and which to replacement)
3. Industries where the average weekly wage is above the average for the 13 county region	Industries whose average weekly wage exceeds the weighted mean for all industries in the region
4. Occupations in these industries that offer the best prospects for employment now and in the future	For only the subset of occupations representing 1 percent or more employment from the list of targeted industries, list the occupations with projected percent change greater than the regional average for all occupations AND a minimum employment threshold equal to or greater than the mean employment level for all regional occupations
5. Occupations in these industries where the average hourly wage is well above the average for all occupations	For only the subset of occupations representing 1 percent or more employment from the 3 (B) list of targeted industries, include only those occupations whose hourly wage rate is equal to or greater than the weighted average for all occupations in the region
6. Occupations in these industries that require, at a minimum, a high school diploma but not more than two years of post secondary education or training	For only the subset of occupations representing 1 percent or more employment from the 3 (B) list of targeted industries, include occupations whose educational requirements fall within the BLS categories of moderate or long-term training, work experience, postsecondary vocational, or Associates degree
7. Occupations in these industries that offer the best opportunities for career advancement	No proxy available. Career advancement is a function of personal attributes and initiative and a unique situation and thus is not empirically verifiable

Step 4 Verify or Modify the Information

Once you gather the relevant labor market information, you should verify—and possibly modify—it through dialog with local employers. Much of the *existing* labor market data comes from multiple employer surveys. This fact explains why these statistics require so much additional analysis and verification. *The individual data items from any given employer survey are simply not structured to tell "the whole story."* In other words, they may not elicit information on the latest evolving and emerging occupations and associated skills shortages.

The process of information verification and modification involves gathering feedback from representatives of large, mid-sized, and small employers from several of the industries identified through the targeting process in Step 3. In the sample case study, a list of employers within each target industry, arrayed by size, served as the primary contact list. Select a few key Chief Executive Officers (CEOs) who likely know where their industries are headed strategically over the next year or two in terms of product design and market segmentation. These CEOs should also have the human resources knowledge to project employment needs over the same period. Convene a meeting of peers by industry and encourage them to discuss perceived labor shortages (those identified by statistical labor market information). Ask them to identify areas where they might work together as an industry group. Later, interviews with these and other employers might prove helpful, but they are not necessary.

This information gathering process is a taller task than it may seem on the surface. Many employers who devote resources to studying changing technologies and the external economic environment also tend to focus those resources on their own unique product lines and not on all aspects of an "industry." When you gather information from these employers, ask them to:

- validate or elaborate upon *existing* information about their industries and verify or repudiate projections of future employment growth or skill requirements
- identify occupations where they have critical labor shortages
- identify emerging or significantly evolving occupations that may not appear in existing data systems and the associated skill requirements

Reaching out to key employers achieves two valuable objectives. First, it marks the beginning of new relationships which will begin to establish your credibility with the employer community at large and which you will nurture over time. Second, it enables you to gather first-hand observations from employers which expound upon existing information without having to go through the complexities of a formal survey process. Assuming that you limit the initial targeting phase (Step 3) to fewer than five key leading industries, you easily should be able to complete this validation process.

Consider the following scenario. A local board has worked through the targeting process and selected several key industry sectors, including health services. The following are sample questions local board staff might pose to employers as part of the validation process.

- Please review our display of the Texas Workforce Commission (TWC)'s detailed employment projections within the health services industry for the local area. From your perspective as a major employer within this industry, do these projections reflect reality for your organization and for the health services industry as a whole—not in absolute terms but in terms of relative magnitude and probable direction?
- Data available from the industry-occupation matrix provides a list of occupations generally found in the health services sector. In what specific occupations do you have the greatest difficulty recruiting and retaining workers?
- Has your firm created reliable estimates of current and projected demand for workers in these labor-shortage occupations? Are you familiar with other projections done by industry associations, private firms, etc., that validate or contradict those provided?
- Please review the occupational profiles from the *OSCAR* system developed by Career Development Resources (CDR, formerly the Texas SOICC), which include job duties, tasks, and other characteristics of health services occupations. Are these commonly accepted titles for jobs in your organization? Do these profiles represent the employer hiring requirements in this region? Are the knowledge, skills, and abilities required for entry-level employment in these occupations common across all employers in the industry?
- Are the education and training credentials/certifications required for any given occupation the same across all employers in the industry?
- Where do you currently get your workers, e.g., how do you recruit? Where do these workers get the education and training they need to meet your entry-level hiring requirements? Who are your quality suppliers and what is your relationship with them? Where are the current bottlenecks in the supply pipeline?
- What are the major barriers to recruiting and retaining quality workers in the labor-shortage occupations? What can committee members do collectively to lower some of those barriers immediately?

Employer interviews strengthen relationships and yield valuable information.

- Do you know turnover rates by occupation? Do you know why workers leave an occupation (or the industry) and where they go next? Does turnover concern you? Have you estimated the costs associated with it?
- Do you know how labor markets work internally in the industry and where the external and internal markets intersect? Which occupations tend to be entry-level? Can you map career paths in the industry? Do members need to know this information?
- Please review CDR's list of emerging and significantly evolving occupations in the health services industry (occupations which do not appear on most existing taxonomies). Does this list seem accurate? What, if any, other emerging occupations would you add? Do these occupations specify the knowledge, skills, and abilities actually required to do these jobs? Have credentials and certification requirements been established?
- What other topics related to better understanding health services labor markets should we add to this list?

The answers to these questions would help the board verify and modify existing labor market information.

Step 5 Identify the Gaps

Return to your original objectives (Step 1), examine the information you have already gleaned, and identify the gaps in the current data sources. In other words, find the difference between what you know and what you want to know. Are the missing data critical to your needs? Can you use proxy variables instead of collecting new information items (i.e., substitute existing data items similar to the indicators you desire)? Do you need to survey key employers in the target industries to fill the gaps?

We often refer to this step as the "gap analysis." Unfortunately, it is a common mistake to start the gap analysis process without first developing a solid understanding of the full range of available data variables or conducting a thorough review of mission-critical information needs. Especially in this age of computerized information, not having or immediately finding a piece of information doesn't mean you should give up. Contrary to popular opinion, the Internet does not yet offer every data product and information variable in existence! Before you begin collecting data directly from employers, ask yourself what you would do with this new information if you actually had it. If you can identify one or more critical action steps you might take based on a specific, currently unavailable, labor market statistic or variable, then—and only then—should you consider collecting primary data. If the costs of data

collection seem out of line with the added knowledge that extra piece of information would contribute, you may decide to invest additional resources in analyzing existing data.

A practical example of the need to analyze data gaps may be industry labor turnover rates. Let us assume that a local board has heard anecdotal evidence from employers that the cost of labor turnover has become an enormous drag on productivity. To more fully understand this problem, one of the local board members suggests a survey of local employers to learn the extent of and the costs associated with staff turnover. In the absence of any quickly available data, the local board approves this motion and a survey begins.

Perform a "gap analysis" only after thoroughly evaluating information needs.

Limited local board resources have now been allotted to quantify this problem, *the approximation of which would be just as actionable as an empirical measurement.* Moreover, the local board in this example does not know that the TWC counts the number of worker separations from covered employment every quarter for each region of the state. Applying this count to any of the numerous formulas for calculating turnover costs (most developed by human resources academicians) would provide a reasonable estimate of the cost of labor turnover—without a survey and at no out-of-pocket cost to the local board.

Step 6 Work with the Local Board to Enhance Its Business Services Capability

This step involves building the capacity to establish and maintain mutually beneficial relationships with key employers in the targeted industry groups. It also entails identifying and harnessing a number of separate and independent efforts already under way in the region—most initiated by the community and technical colleges, proprietary schools, universities, and other current job training providers—to avoid duplication of effort or political conflict.

The art of quality customer service lies in the ability of the service deliverer to establish reasonable expectations with the customer at the very onset of the relationship. It calls on service providers to be problem-solvers, helping employers identify their workforce issues and design solutions to those problems. This rule holds true in business-to-business relationships, as well. Avoid all possible missteps when building relationships with the business community—especially when the relationships rely on your providing quality service. Remember that the axiom "you only get one chance to make a first impression" comes from the business world—and it applies even more so to a local government representative.

To private sector employers, the local workforce system is a public sector business entity seeking to establish a relationship. As such, employers will measure the standards for engagement as they would for any "supplier." They will assess your ability to partner with them by private sector standards, with no allowance for the fact that you represent government. In fact, private sector outplacement firms such as Manpower, Inc. now offer many of the business support services that local workforce systems might provide. In some cases, such private sector firms may make better *partners* than *competitors* when it comes to assisting local employers.

The local board should consider itself a business entity building relationships with other (private) businesses.

The capacity to work with and nurture ongoing relationships with participating employers in each targeted industry requires a substantial commitment of professional resources. One possible scenario would have a business services representative (BSR) assigned to each targeted industry depending on its prominence in the region. The role of the BSR would be diverse, but he or she would specifically:

- Verify and document occupational shortages in targeted industries through the analysis of existing labor market information and meetings with employer human resources directors, CEOs, and so on.
- Work closely with the workforce board and any outside partners to help organize and support industry/group meetings, such as creating or joining an industry partnership to generate skills standards, as needed.
- Identify emerging occupations not yet reflected in existing labor market information.
- Identify the skill requirements, including "soft" or cross-functional skills, related to those occupations through task analysis, job profiling, or related techniques.
- Examine and evaluate current sources of job applicants and promote relationships with those suppliers.
- Work with employers to develop better ways to disseminate information about their job openings, improve recruitment techniques, and/or make recommendations on how to make their jobs more attractive to prospective applicants, given existing labor market conditions.
- Identify occupations requiring similar skill sets where employment is declining and help facilitate career transition or retraining efforts in conjunction with local workforce centers.

- Work with employers and appropriate education and training providers to develop curricula to produce workers with requisite skills.
- Provide any other technical, administrative, and staff support to industry representatives as needed, especially helping them negotiate the "red tape" sometimes associated with government programs (i.e., "other duties, as assigned!").

Helping the local board enhance its business services capability actually achieves two objectives. First, it engages private sector employers—many of whom the local board may rely upon for providing information to guide program decisions. It gives them a name and a face to associate with public workforce services. Second and more importantly, it establishes the clear expectation that the relationship will be a "two-way street." The use of business services representatives denotes an approach to doing business that makes each targeted industry sector a partner in the regional workforce system. Not only do you expect employers to share information and list job openings, but you demonstrate the workforce system's commitment to providing industry-specific services dedicated to solving the human resources challenges of those participating employers.

Step 7 Establish and Maintain Employer-Led Steering Committees

Local boards can further the cause of consensus-building by establishing and helping to maintain employer-led steering committees. Creating steering committees in each of the targeted industries offers several benefits for local boards. First, the committees help build quality relationships with key employers. In addition, they identify and verify current and projected labor shortages and associated skill requirements. Finally, they foster relationships with education and employment and training suppliers—relationships that better align public workforce services with employers' needs.

Local boards can facilitate the development and continuation of employer-led steering committees by providing meeting facilities and planning services, notifying members of upcoming meetings, and other related activities.

Step 8 Make a Decision!

Determine whether the need for additional information justifies the cost and inconvenience of gathering it (including costs or burden to employers to complete a survey). If the value of the data exceeds the estimated cost of collection, the local board should proceed with their preferred method of primary data gathering (e.g., an employer survey). In most cases, targeting industry employers and occupations and fashioning solutions to both their

immediate and longer-term labor problems make formal employer surveys unnecessary. The data in hand may not be perfect but they form a good foundation for quantitative information policy action. After all, it is not a perfect world!

Step 9 If Necessary, Conduct an Employer Survey

Depending on their past experiences, the level of their faith in existing data sources, and the nature of the remaining data gaps, some local boards will opt to collect additional information in the form of an employer survey. Such a survey entails working with a contractor to refine the instrument, then collecting the data, tabulating the results, and using the results as intended. (See Chapter 12: *Using Employer Surveys in Labor Market Planning* for suggestions and pitfalls.)

If your local board uses government money to underwrite an employer survey, the partners will have to identify someone to manage the process through a public procurement process. They will then develop and issue a request for proposal for a contractor who will manage the survey, which includes developing the methodology (e.g., sampling frame and size), designing the instrument, collecting and tabulating the data, and reporting to the partners.

Nothing can go more quickly awry than a survey effort by a subcontractor that the contractor, i.e., the local board, does not closely shepherd. Trust is important, but oversight is critical. Several areas of contractor interaction might include:

- Working with the contractor on the methodology and survey design to ensure compatibility with existing data-gathering efforts (such as the use of common occupational titles) to enhance the usefulness of survey results.
- Coordinating the involvement of human resources people from key industries to pre-test the survey approach and survey instruments.
- Securing the services, expertise, and experience of federal, state, and local labor market information experts to devise and validate a strategy whereby data collected through the survey blend seamlessly with currently available statistics.

Thoroughly planning a survey effort before launching it can mean the difference between gathering actionable data and collecting garbage. Make sure your contractor is thoughtful in the pre-survey stage. Once he or she mails or otherwise distributes the instrument, the most expensive part of the survey process has been committed.

Once the survey has been thoroughly planned, the local board must collect the survey data and tabulate the results. These two processes are equally important. The contractor should mail the survey forms in a timely fashion, taking advantage of bulk mail or other reduced postage opportunities wherever possible. Experienced contractors know, however, that sending out a survey instrument, as labor intensive as this can be, is no match for the time and labor needed to tabulate survey responses. For this reason, he or she should design the survey instrument itself in such a way that the results can be tabulated electronically, perhaps using bar code or other scanning technology.

Finally, once the survey itself is complete, the local board should use the results as intended. If everything has proceeded as planned, analysis of the data should be straightforward and useful in confirming or refuting original hypotheses about the local labor market. But as they say, to a child with a hammer, the whole world is a nail. In too many cases, analysts collect survey data at random and then comb through them to see if anything stands out as being important. We refer to this as the "I'll know it when I see it" approach to data analysis or the "looky here what I found" technique. Although you may sometimes discover unexpected pearls among the data, ideally the actual survey results should simply add magnitude or validation to existing presumptions.

Step 10 Review Overall Results and Take the Next Steps

By this stage, the local board has information from the synthesis of available labor market data and possibly the employer survey. Staff should review the collective results of the initial effort to establish and build ongoing relationships with key businesses, modify the process as needed based on actual experience, and then expand the data collection effort to other industries as needed or desired. Most importantly, these new data should provide actionable information for guiding workforce services and making resource allocation decisions.

In addition, the collection and synthesis of labor market information should play an important role in shaping subsequent strategic plans. Armed with a strong awareness of regional labor market dynamics, no local board strategic plan should rely on random, intuitive, or anecdotal evidence of regional economic or employment conditions.

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Step 11 Document the Results

The demand-driven model described thus far, led by industry partnerships and local board business services representatives, signifies a revolutionary approach to providing workforce services. Although the WIA emphasizes local control and designates employers as equal customers with residents, most of the existing performance measures for local workforce programs focus on the traditional supply-driven approach. These measures focus exclusively on how many residents got jobs based on referrals from a Workforce Center, what their average earnings were, and so on. Either the state workforce agency or local board must devise a suitable set of both process and outcome measures to document activity with employers as the primary customer. These measures must identify areas to enhance or de-emphasize, e.g., the success of a business services representative, and to generally institute a process of continuous program improvement for services to employers.

In spirit, many of the supply-driven performance measures have counterparts in the demand-driven model. Self-reported customer satisfaction, for instance, applies equally in both models. You could even borrow from traditional measures and data collection systems and simply format the results differently. For example, job placements, earnings gains, and employment retention serve as three traditional supply-driven outcomes measures; they focus on getting a person into a job and putting them into a position for career progression and long-term sustainability. From the employer perspective, job placement equates with a hiring that meets a skill need; earnings gains represent empirical documentation of rewarding a high-performing worker; and employment retention is the same as reduced worker turnover with concomitant reduced hiring and retraining costs.

Many of the supply-driven performance measures have demand-driven counterparts.

While some measures can remain the same with minor word changes, other aspects of a demand-driven model require an entirely new set of process and outcome measures. The number of job openings solicited by business services representatives from area employers might be one such measure. The amount of private sector dollars leveraged by the expenditure of public workforce development dollars is another possibility. Requests for repeat business is a third. The bottom line is that program operators cannot declare their initiatives a success unless they have performance measures in place which reflect the planned projects, objectives, and activities associated with the delivery of services.

Closing Thoughts and Lessons Learned

The process described above may seem cumbersome to those who believe they can implement a strategic plan without intimate knowledge of local economic conditions, or who think an employer survey is the only labor market information tool needed to drive workforce program decisions. In reality, going through these steps carefully and systematically greatly enhances partnerships between the local board and local employers and increases the chance for long-term success. It provides the basis for a substantive relationship with the employer community by demonstrating that you have an organized and intelligent notion about what your region—and your local board—would like to achieve. Many employers resign from public sector local boards because they do not see their contributions translated into action. Meeting employer workforce needs is the only way to effectively engage employers in public workforce efforts—there has to be something in it for them, i.e., access to qualified workers that contribute to employers' "bottom line."

There is a second benefit to adhering to the entire process outlined above. You will help allocate limited administrative dollars in areas of true importance—as opposed to spending them on services (such as an employer survey) that are not really necessary or which could be pared down considerably. *While labor market information is very important, there are many other expenditures that are equally, if not more, justifiable.*

LMI is important, but local boards might do well to fund other expenditures that are equally, if not more, justifiable.

Clarity of purpose is essential. History is replete with information gathering exercises, including employer surveys, gone astray. At best, no action results because no one ever defined what exactly he or she needed to know and so the information gathered proved useless. At worst, lasting damage occurs when the experience leaves those who participated feeling frustrated and resentful. No employer wants to respond to redundant requests for information. No local board staff member wants to look uninformed when facing employers who protest that they already provide "these data" on one or more other government survey. It makes sense to learn from others' mistakes and spend the available time, money, energy, and goodwill on building a solid foundation for lasting relationships between local employers and the regional workforce system.

"Getting started" in the process of analyzing local labor markets and building employer consensus through a local workforce board is not inherently easy. Luckily, you're not alone. Local workforce boards all over the country find themselves undertaking similar exercises, providing insights about what works with employers and what doesn't. Below are some summary "lessons learned" from experiences with local boards in Austin, Texas; Columbus, Ohio; Memphis, Tennessee; and Pittsburgh, Pennsylvania.

- Build on the region's natural advantages and existing assets and target those "driver industries" that will propel the region's economic growth.
- Engage in sound labor market analysis before targeting industries and employers and before working with employers in those industries to identify labor shortage occupations.
- Work through industry associations or other existing industry groups, especially when dealing with large numbers of small and intermediate-sized employers.
- Remember that industry-based workforce initiatives need to be employer-led. Having one of two committed employers in each industry group to communicate concerns, chair meetings, and champion the effort with their peers is essential for success.
- Help employers see that their involvement in an industry effort benefits their own workforce strategies, productivity, and bottom lines. Otherwise, they will not actively participate.
- Provide employer groups with a set of concrete, achievable action steps that have an endpoint. If they see the process as interminable or a "bottomless pit," they will not engage in any meaningful way.
- Respect employers' time! Plan meetings around their schedules. Run short, focused meetings whose agendas have a clear purpose and produce tangible results.
- Get employers' attention and participation by helping them to meet their *immediate* workforce needs, whatever they are—not those they may face two years from now.
- Avoid making community-service or social-welfare appeals to employers. Instead, acknowledge the competitive environment in which they operate, appeal to their self-interest, and show them how your initiative can help them quickly improve productivity and increase their bottom lines.

- Remember that designing an education and training curriculum or revising an existing curriculum does not usually solve current labor shortages. Be willing to explore all alternatives and take practical action that immediately expands the pool of qualified job applicants instead.
- Bear in mind that, while the emerging workforce moves through the traditional K-12 and higher education pipeline, most of the workers for the foreseeable future already exist in the labor force and roughly 96 percent of them are currently employed.
- Know that a tight labor market is the single most important predictor of success. Employers in industries with the most acute labor shortages are the ones most interested in participating in joint efforts to expand labor supply.
- Help employers communicate their workforce needs. Rather than face the difficult task of identifying skill requirements, employers sometimes focus on problems on the supply side of the market (i.e., what's wrong with public education). To keep them solution-oriented and "on task," give them something concrete to respond to, such as a detailed occupational profile, when the conversation turns to occupational tasks, duties, and skills.
- Use business services representatives—not educators—to bridge the gap between the cultures of business and education. Industry partnership staff should come out of industry, preferably with knowledge of and contacts in the targeted industries. Educators have their place, but it is not in the lead position and not at the initial meetings with employers. These meetings focus on determining workforce needs and gauging employer interest in participating in an industry-based effort. Previous business experience makes such discussions more fruitful.
- Be aware that in many cases employers and educators view each other with suspicion and distrust.
- Remember that "growing the system to scale" (i.e., meeting the needs of large numbers of employers and workers) requires a long and sustained commitment.
- Keep your expectations reasonable. Don't anticipate immediate results in the form of large numbers of qualified workers available to employers, jobs filled more quickly, and/or better trained individuals. The process requires time, patience, and persistence to succeed.

A REGIONAL CASE STUDY

The process of targeting high demand industries and occupations leaves valuable documentation at every stage. As the following case study attests, identifying roughly 8-10 target industries and 15-25 targeted occupations form a sufficient basis for focusing regional workforce efforts and building industry partnerships. While this case study depicts the experience of an actual region in Texas, we have omitted the local board's name to keep the focus on the generic process itself. Instead, we refer to it as "the Board."

The Board structured the data analysis around a series of questions that represented its targeting objectives. Career Development Resources (CDR) staff translated the "every day language" of the Board questions into specific data inquiries. The questions, translations, and resulting tables appear below.

QUESTION ONE

Which regional industries will likely provide the largest number of job openings?

The Board first targeted some of the largest industries in the region based on the idea that larger industries drove the region's economy and offered potential for the greatest number of job opportunities. Question One identified these sectors.

Workforce Board Criterion

High volume growth industries that are expected to provide the largest number of job openings (not just the fastest growing industries; no government).

LMI Translation

Industries with a current employment level equal to or above the mean for all industries of 27,577 people employed in 1998.

Case Study Table I
Regional Industries with Largest Number of Projected Job Openings
Sorted by Number Employed in 1998

SIC	Industry	Number Employed in 1998	Percentage Growth Expected 1996-2006
82	Educational Services	205,667	12.19%
73	Business Services	171,520	43.92%
80	Health Services	156,889	21.30%
58	Eating and Drinking Places	127,834	30.33%
50	Wholesale Trade, durables	90,619	14.65%
87	Engineering, Accounting Management Services	80,671	37.95%
17	Special Trade Contractors	73,073	31.30%
13	Oil and Gas Extraction	72,125	12.33%
54	Food Stores	60,667	18.10%
35	Machinery, except Electrical	56,679	39.66%
16	Heavy Construction	53,716	16.47%
51	Wholesale Trade, non-durables	43,528	14.66%
53	General Merchandise Stores	42,911	21.84%
28	Chemical Manufacture	41,574	3.68%
55	Automotive Dealers	37,772	20.03%
59	Retail Trade, misc.	37,615	10.87%
34	Fabricated Metal Products	36,313	38.25%
42	Trucking and Warehousing	30,419	23.24%
49	Electric and Gas Utilities	29,841	6.41%
45	Transportation by Air	29,080	33.12%

QUESTION TWO

Which large regional industries have the greatest projected growth?

The second inquiry continued the focus on large industries but narrowed the criteria by including industry growth rate. The Board wanted industries that were not only large but which projected continued growth in employment. The goal was to focus on industries that were not just *replacing* workers but actually *adding* workers. Even though state and local government initially showed up on the Question Two list, the Board again decided to target only private sector employers.

Workforce Board Criterion

Larger industries that are still growing and projected to provide the largest number of job opportunities for local residents—maybe those where one in five hires is due to growth, rather than replacement (no government).

LMI Translation

Industries with a current minimum of 5,000 employees
OR employment greater than or equal to 150 percent of the median (21,244)
AND with a projected growth rate greater than the average for all region industries (21.4 percent).

Case Study Table II
Large Regional Industries with Greatest Projected Growth
Sorted by Percent Growth Expected

SIC	Industry	Number Employed in 1998	Percentage Growth Expected 1996-2006
73	Business Services	171,520	43.92%
83	Social Services	26,083	41.15%
35	Machinery, except Electrical	56,679	39.66%
48	Communications	21,501	38.68%
34	Fabricated Metal Products	36,313	38.25%
87	Engineering, Accounting Management Services	80,671	37.95%
75	Automotive Repair	21,288	35.40%
45	Transportation by Air	29,080	33.12%
17	Special Trade Contractors	73,073	31.30%
58	Eating and Drinking Places	127,834	30.33%
72	Personal Services	23,622	26.68%
42	Trucking and Warehousing	30,419	23.24%
53	General Merchandise Stores	42,911	21.84%

QUESTION THREE

Which large high-growth regional industries have above-average weekly wages?

In Question Three, the Board began to consider industry wages as a prioritizing criterion. Since wages became a hotly debated issue, the staff created two versions of this table with different wage thresholds (A and B). Actually seeing which industries made the lists caused Board members to further examine their objectives and priorities. Ultimately, they preferred the lower average weekly wage cutoff of Table III B over the more restrictive cutoff of Table III A.

The lists stimulated interest in seeing more detailed industries within these sectors and led the Board to reconsider some of their criteria and focus on the purpose of the final targeted list of industries. Viewing the results of the targeting process also re-established the group focus and made subsequent decisions even more data-driven. The discussion also cemented the fact that while targeting high paying industries was important, the Board's real objective was to solicit jobs for resident customers, including lower-skilled welfare recipients. They decided that the industries that made the final target list must have the types of jobs for which lower-skilled residents would qualify. See the Industry Profile that follows this case study for a narrative the Board used to report on one industry, Fabricated Metal Products.

Workforce Board Criterion

All industries that meet the criterion in Question Two
AND that offer occupations with an average weekly wage above the thirteen county region average (no government).

LMI Translation

Industries with a minimum of 5,000 employees
OR employment greater than or equal to 150 percent of the median (21,244)
AND with a percent growth rate greater than the average for all region industries (21.4 percent)
AND with a WEIGHTED average weekly wage above the regional average for all industries ($683; Table III A) or the more inclusive, though random, cutoff of $500; Table III B) (no government).
NOTE: The regional, non-weighted average weekly wage for all industries is $734.52.

Case Study Table III A
Targeted Regional Industries with Average Weekly Wages Above $683
Sorted by SIC Code

SIC	Industry	Number Employed in 1998	Percentage Growth Expected 1996-2006	Average Weekly Wages
34	Fabricated Metal Products	36,313	38.25%	$690.61
35	Machinery, except Electrical	56,679	39.66%	$1,057.53
45	Transportation by Air	29,080	33.12%	$877.72
48	Communications	21,501	38.68%	$888.07
87	Engineering, Accounting Management Services	80,671	37.95%	$1,022.36

Case Study Table III B
Targeted Regional Industries with Average Weekly Wages Above $500
Sorted by SIC Code

SIC	Industry	Number Employed in 1998	Percentage Growth Expected 1996-2006	Average Weekly Wages
17	Special Trade Contractors	73,073	31.30%	$560.00
34	Fabricated Metal Products	36,313	38.25%	$690.61
35	Machinery, except Electrical	56,679	39.66%	$1,057.53
42	Trucking and Warehousing	30,419	23.24%	$557.59
45	Transportation by Air	29,080	33.12%	$877.72
48	Communications	21,501	38.68%	$888.07
73	Business Services	171,520	43.92%	$562.91
87	Engineering, Accounting Management Services	80,671	37.95%	$1,022.36

QUESTION FOUR

Which occupations in targeted regional industries offer long-term employment prospects?

As Question Four indicates, the Board also believed that the targeted industries must offer favorable long-term occupational employment prospects in order to reduce the number of job seekers who return to employment services.

Workforce Board Criterion

Occupations in the targeted industries that offer the best prospects for employment now and in the future.

LMI Translation

For only the subset of occupations representing 1 percent or more employment from the Table III B list of targeted industries, list the occupations with projected percent change greater than the regional average for all occupations (20.78 percent) **AND** a minimum employment threshold equal to or greater than the mean employment level for all occupations (3,200).

Case Study Table IV
Occupations in Targeted Industries That Might Provide Long-Term Employment

Sorted by OES Code

OES	Occupation	Number Employed in 1996	Percentage Growth Expected 1996-2006
13002	Financial Managers	13,050	25.29%
13011	Marketing, Advertising Managers	8,700	37.36%
13017	Engineering, Math Managers	6,650	53.38%
15017	Construction Managers	5,700	32.46%
15023	Communications Managers	3,400	27.94%
19005	General Managers	57,150	22.22%
19999	Other Managers, NEC	22,700	24.89%
21902	Cost Estimators	3,200	37.50%
22121	Civil Engineers	5,050	25.74%
22126	Electrical and Electronic Engineers	6,750	54.81%
22127	Computer Engineers	6,100	86.89%
22135	Mechanical engineers	6,150	33.33%
22302	Architects, except Landscape	3,700	21.62%
22505	Electrical and Electronic Engineering Technicians	4,950	30.30%
22599	Engineering Technicians, other	3,450	21.74%
25102	Systems Analysts, Electronic	8,500	94.71%
31314	Vocational Teachers and Instructors	3,400	27.94%
39999	Other Professional and Technical Workers, NEC	12,950	36.29%
43017	Sales Agents, Business Services	4,650	33.33%
49026	Telemarketers	10,250	24.88%
51002	First line Supervisors, Clerical	25,500	25.10%
55305	Receptionists, Information Clerks	16,750	31.34%
55335	Customer Service Representatives	3,700	82.43%
58005	Dispatchers, except Police	3,350	23.88%
58008	Production, Expediting Clerks	3,850	23.38%

Case Study Table IV
Occupations in Targeted Industries That Might Provide Long-Term Employment

Sorted by OES Code

(Continued)

OES	Occupation	Number Employed in 1996	Percentage Growth Expected 1996-2006
58023	Stock clerks	12,450	31.33%
58028	Shipping and Receiving clerks	15,500	20.97%
63047	Security Guards and Watch Guards	17,950	32.03%
83002	Precision Inspectors, Testers	3,200	29.69%
85110	Industrial Machinery Mechanics	4,250	25.88%
85902	HVAC installers, Mechanics	4,700	55.32%
87102	Carpenters	10,700	23.36%
87202	Electricians	10,650	28.64%
87402	Painters and Paperhangers	11,050	26.70%
87502	Plumbers and Pipefitters	9,550	21.47%
89132	Sheet Metal Workers	3,350	28.36%
93114	Electronic Assemblers, Precision	3,550	52.11%
93914	Welders and Cutters	11,150	32.74%
93956	Assemblers and Fabricators, non-electronic	12,300	30.89%
97102	Truck Drivers, heavy	30,500	24.26%
97105	Truck Drivers, light	18,100	29.28%
97947	Industrial Truck and Tractors Operators	7,400	26.35%
98312	Helper, Carpenters	4,350	31.03%
98319	Helper, General Construction	8,700	39.66%
98902	Hand Packers and Packagers	13,450	30.48%
98905	Vehicle Washers and Equipment Cleaners	6,800	27.94%

QUESTION FIVE

Which occupations in targeted regional industries offer above-average hourly wages?

In an effort to further refine this initial list, the Board injected an occupational wage consideration in Question Five. After considerable discussion, members agreed that the cut-off point should equal the weighted average for all occupations in the region. Their individual opinions, however, ranged from the "average wage at placement" performance criterion established by the state to random thresholds such as $10.00 per hour.

Workforce Board Criterion

Occupations in the targeted industries where the average hourly wage is well above the average for all occupations.

LMI Translation

For only the subset of occupations representing 1 percent or more employment from the III B list of targeted industries, list the occupations with projected percent change greater than the regional average for all occupations (20.78 percent)
AND a minimum employment threshold equal to or greater than the mean employment level for all occupations (3,200)
AND an average hourly wage rate greater than or equal to the WEIGHTED average for all occupations in the region ($11.85).

Case Study Table V
Occupations in Targeted Industries That Offer Above-Average Hourly Wages

Sorted by OES Code

OES	Occupation	Number Employed in 1996	Percentage Growth Expected 1996-2006	Average Hourly Wage
13002	Financial Managers	13,050	25.29%	$25.81
13011	Marketing, Advertising Managers	8,700	37.36%	$27.39
13017	Engineering, Math Managers	6,650	53.38%	$32.35
15017	Construction Managers	5,700	32.46%	$20.69
15023	Communications Managers	3,400	27.94%	$21.93
19005	General Managers	57,150	22.22%	$26.66
19999	Other Managers, NEC	22,700	24.89%	$22.92
21902	Cost Estimators	3,200	37.50%	$19.36
22121	Civil Engineers	5,050	25.74%	$24.95
22126	Electrical and Electronic Engineers	6,750	54.81%	$26.81
22127	Computer Engineers	6,100	86.89%	$26.87
22135	Mechanical Engineers	6,150	33.33%	$25.24
22302	Architects, except Landscape	3,700	21.62%	$19.35
22505	Electrical & Electronic Engineering Technicians	4,950	30.30%	$15.44
22599	Other Engineering Technicians	3,450	21.74%	$16.04
25102	Systems Analysts, Electronic	8,500	94.71%	$21.76
31314	Vocational Teachers and Instructors	3,400	27.94%	$15.00
39999	Other Professional & Technical Workers, NEC	12,950	36.29%	$16.99
43017	Sales Agents, Business Services	4,650	33.33%	$15.00
51002	First Line Supervisors, Clerical	25,500	25.10%	$14.14
58005	Dispatchers, except Police	3,350	23.88%	$12.12
58008	Production, Expediting Clerks	3,850	23.38%	$12.16
85110	Industrial Machinery Mechanics	4,250	25.88%	$13.41
85902	HVAC Installers, Mechanics	4,700	55.32%	$12.50
87102	Carpenters	10,700	23.36%	$11.91
87202	Electricians	10,650	28.64%	$13.84
87502	Plumbers and Pipefitters	9,550	21.47%	$13.94
93914	Welders and Cutters	11,150	32.74%	$12.52
97102	Truck Drivers, Heavy	30,500	24.26%	$12.16

QUESTION SIX

Which occupations in targeted regional industries require no more than a two-year degree?

At this stage, Board members began to feel confident that their lists reflected a reasoned, data-driven process. When a staff member reminded the group that several of the occupations on the list had training times that exceeded the legislation's administrative limits, they added Question Six. Hence, the Board established upper and lower limits for usual education and training requirements to avoid occupations that required only minimal instruction (and likely offered limited career progression potential) and those that required a Bachelor's degree.

Workforce Board Criterion

Occupations in the targeted industries that require, at a minimum, a high school diploma but not more than two years of postsecondary education or training.

LMI Translation

For only the subset of occupations representing 1 percent or more employment from the III B list of targeted industries, list the occupations with projected percent change greater than the regional average for all occupations (20.78 percent)
AND a minimum employment threshold equal to or greater than the mean employment level for all occupations (3,200)
AND has an average hourly wage rate greater than or equal to the WEIGHTED average for all occupations in the region ($11.85)
AND whose educational requirements fall within the categories of moderate or long-term training, work experience, postsecondary vocational, or Associate's degree based on the BLS ratings for preferred education (excludes short-term instruction only on the lower end and a Bachelor's degree or higher on the upper end).

Case Study Table VI
Occupations in Targeted Industries That Require No More Than a Two-Year Degree

Sorted by OES Code

OES	Occupation	No. Empl'd in 1996	Percentage Growth Expected 1996-2006	Average Hourly Wages	Training Required
21902	Cost Estimators	3,200	37.50%	$19.30	Work related experience
22505	Electrical/Electronic Engineering Techs	4,950	30.30%	$15.44	Associates degree
22599	Other Engineering technicians	3,450	21.74%	$16.04	Associates degree
31314	Vocational Teachers & Instructors	3,400	27.94%	$15.00	Work related experience
43017	Sales Agents, Business Services	4,650	33.33%	$15.00	Moderate term training
51002	First Line Supervisors, Clerical	25,500	25.10%	$14.14	Work related experience
58005	Dispatchers, except Police	3,350	23.88%	$12.12	Moderate term training
85110	Industrial Machinery Mechanics	4,250	25.88%	$13.41	Long term training
85902	HVAC Installers, Mechanics	4,700	55.32%	$12.50	Long term training
87102	Carpenters	10,700	23.36%	$11.91	Long term training
87202	Electricians	10,650	28.64%	$13.84	Long term training
87502	Plumbers and Pipefitters	9,550	21.47%	$13.94	Long term training
93914	Welders and Cutters	11,150	32.74%	$12.52	Postsecondary vocational

After reviewing the occupations associated with the target industries, Board members decided they would add to the list occupations from SOICC's *Emerging and Evolving Occupations* publication and other occupations or skill sets that employers might discuss when directly engaged by Board staff or business services representatives. Board members also agreed that knowing these occupations and their relationship to the targeted industries proved to be an excellent "point of departure" for more detailed discussions with industry representatives.

From here, the Board began discussions that centered on forming industry partnerships by contacting specific employers within each of the target industries. These employers could offer final validation of the labor market data, demonstrate their willingness to work with the Board and Workforce Center staff and provide actual job listings. The Board could also use the partnership to develop both industry- and employer-specific hiring requirements that they could share with area training providers.

INDUSTRY PROFILE

Developing a Data-Driven Profile to Enhance Industry Knowledge for Business Services Representatives

As discussed previously, there is a considerable amount of labor market information available through existing sources. If a region intends to create a demand-centered model for workforce development programs, it is crucial that business services representatives understand the structure, trends, and characteristics of each targeted industry. A seasoned labor market analyst can apply certain analytical tools, economic and labor market theory, and common logic to existing data sets to build and relate a meaningful labor market picture or industry analysis. The example provided below demonstrates an analysis that concentrates on a single industry, Fabricated Metal Products, within a region of Texas.

Fabricated Metal Products in the "Janeville" LWDB Region

Most of the actual data displayed here are fictitious, including the name of the local workforce development board (LWDB) region (Janeville). Nevertheless, real statistics from the referenced sources should be readily available. We bracketed and italicized the source of each data item to assist prospective analysts in their data gathering. Throughout, "TWC/LMI" refers to the Texas Workforce Commission's Labor Market Information department—a major data source.

Description

Fabricated Metal Products (Standard Industrial Classification (SIC) code 34) in the Janeville LWDB region consists mostly of SIC 344 Fabricated Structural Metal products and SIC 349 Misc. Fabricated Metal products *<CDR's SOCRATES Internet site or TWC/LMI's TRACER Internet site>*. According to the U.S. Department of Commerce's *County Business Patterns*, Janeville region's SIC 344 includes a mix of boiler shops, sheet metal work, and prefabricated metal buildings. The manufacture of industrial valves and pipe fittings mainly comprise SIC 349 in the region *<SOCRATES or Standard Industrial Classification manual>*. These industries are closely linked to the Petroleum Refining and Chemical Manufacture industries (SIC 29 and 28) *<Texas Input-Output Model Transactions table>*, which have collectively added 2,624 jobs between the first quarter in 1997 and the first quarter in 1999 in the Janeville region. Both industries also have large positive local share components based on shift-share analysis *<SOCRATES Shift-share analysis>*, indicating a unique local comparative advantage in this sector.

Employment Structure

Locally, the Fabricated Metal Products industry had 22,361 employees in the first quarter 1999. Of the 69 2-digit SIC industries, this sector ranked ninth in comparison with other industries using multiple indicators of local employment potential <*Industrial analysis*>. The robust growth in this industry at the national level is also a positive indicator. In addition, Texas' projected employment growth through 2006 further contributed to a strong showing for this sector. Because the Janeville region has a strong comparative advantage in this sector, documented by the shift-share analysis, the state and national projections for Fabricated Metal Products are less important indicators than for other industries in the local economy since primarily local factors are driving employment growth.

Fabricated Metal Products is a basic or export industry for the Janeville region with a coefficient of specialization of 1.27, showing a greater concentration of employment in this industry than in the U.S. as a whole <*Shift-share analysis/ coefficients of specialization*>. Moreover, with a multiplier of 2.79, this industry generates a greater residual employment impact than service or retail industries with much lower multipliers (around 1.5-1.6) <*Input-output model multipliers*>.

Employment Growth

Locally, SIC 34 ranked 8th in job growth, 19th in total employment size, and 21st in job openings filed with the TWC <*Industrial analysis from ES-202 data; openings from TWC/LMI*>. The industry added 1,902 net jobs between the first quarter in 1996 and the first quarter in 1999 <*ES-202 data time series analysis*>, representing an 8.5 percent growth rate, and held its own during calendar year 1998, expanding at an annual rate of 3.7 percent. Overall, the Janeville LWDB region had a lukewarm 2.1 percent annual growth rate in total employment <*Time series analysis of Current Employment Statistics data from TWC/LMI*>.

The regional industry projections from TWC's LMI department show a projected growth rate in the Janeville LWDB of 3.57 percent annually through 2006, adding 7,050 net new jobs between 1996 and 2006 to reach a level of 26,787 employment by 2006 <*Industry projections from TWC/LMI*>. Any inconsistencies between current employment and projected employment are likely the result of inter-projection peaks or valleys in the business cycle.

Statewide, SIC 34 added 5,541 jobs between the first quarter in 1997 and the first quarter in 1999. This industry accounted for a total Janeville LWDB regional payroll of $998,971,727 in the first quarter of 1999. Jobs in this sector paid an average weekly wage of $678.31 in 1999—7.4 percent above the state average <*Calculations of average weekly wages from TWC/LMI's Covered Wages and Employment publication*>. The Fabricated Metal Products industry statewide also had a 13.6 percent new hire rate which indicates more stable employment and lower turnover jobs; especially compared to the 22.98 percent state average for all industries <*Analysis of new hire rates from TWC*>.

Despite a relatively low turnover rate in this industry, the absolute size of the sector resulted in 11,361 new hires statewide in the first quarter 1999 alone; ranking it 27th among the 69 two-digit SIC industry sectors in Texas <*Analysis of new hire rates from TWC*>. By applying this new hire rate to 1999 base year employment in Fabricated Metal Products in Janeville LWDB, and assuming no significant external shocks to the industry, one would estimate roughly 3,198 potential new hires for 2000 <*Calculations from ES-202 data time series and analysis of new hire rates from TWC*>.

Hours Worked and National Performance

Using a national economic performance indicator of weekly hours worked and the number of production workers employed, a relative measure of job prospects for each industry sector can be calculated and industries ranked accordingly. The Aggregate Hourly Index for the Fabricated Metal Products industry was 127.5 in January 1999. The comparable figure was 112.7 in January 1997 and the average for all industries in January 1999 was 122.9. Thus, the overall industry performance was slightly better than average. This industry ranked 27th in index growth between 1997 and 1999. The sector with the largest index expansion was Business Services <*Analysis of national hours worked and production workers from Employment and Earnings*>.

Nationally, demand is expected to increase for high tech valves and fittings due to domestic construction and, especially, air quality and environmental concerns. International demand for these products, where the U.S. maintains a comparative advantage, is expected to boost demand for domestic sales through 2002 <*U.S. Industry and Trade Outlook, U.S. Dept. of Commerce*>.

Seasonal Hiring Patterns

Most industries are subject to "seasonal fluctuations" in their employment levels. Each industry has its own unique set of factors which cause employment to be higher or lower in any given month or calendar quarter. The factors which most significantly impact employment levels in Fabricated Metal Products in Texas are seasonal fluctuations in business activity and changes in oil prices. Compared to other industries, however, the seasonal effect is minor. The months in which employment tends to be lower than average are January and March. The months when employment levels are generally higher than average are September and October. Higher than average employment may indicate months during which this industry has greater hiring activity *<All seasonal-related variables computed from Current Employment Statistics seasonal adjustment calculations by TWC/LMI>*.

These seasonal fluctuations matter both to job seekers whose employment futures may be tied to specific industries and to intermediate suppliers of goods and services who are more likely to do business with a given industry during high or peak periods. At the national level in January 1999, workers in this industry tend to labor for an average of 42.1 hours per week compared to the average of 33.9 hours for all industries. In Texas, comparable figures for January 1999 were 43.6 hours in this industry and 35.7 hours for all industries *<CES data from Table 15 of Employment and Earnings and TWC/LMI>*.

Occupational Composition

The occupations employed in the Fabricated Metal Products industry require technical skills training. Several occupations such as Machinists (19.4 percent of total employment), Structural Metal Fabricator (19.4 percent), Sheet Metal Worker (19.4 percent), Cost Estimator (29.8 percent), and Industrial Production Manager (30.1 percent) *<Industry-occupation matrix percentages from SOCRATES>* have expected growth rates to 2006 in excess of the state average *<Occupational projections from TWC/LMI>*.

Business Establishments

The Janeville region had 621 business establishments in the first quarter 1997 engaged in the Fabricated Metal Products industry—a figure that grew to 672 by the first quarter in 1999. Since Retail Trade and Service industries generally rank highly in the indicators for change in business establishments, this level of establishment expansion is a very positive indicator for job openings potential *<Time series analysis of business establishments from TWC/LMI>*.

Final Assessment

Based on the data, we believe the Janeville local workforce development board should consider SIC 34 Fabricated Metal Products (and SIC 344 Fabricated Structural Metal products in particular) for the targeted industries list. To validate this analysis, the Board should contact local representatives from Fabricated Metal Products companies in the Janeville region, such as Henry's Tank Corp, the BIG Widget Co., Top Dog Field Services, Texas Aluminum Industries, and Jane's Precision Fabricating, to validate the employment growth potential of this industry and to identify their perceived need for worker skills, especially in the occupations previously identified. The Board can find contacts in the employers listing from ALMIS (*www.acinet.org*), the Chamber of Commerce, the Bureau of Business Research, and so on. They should also engage other groups, such as the local economic development associations, the business editor for the major area newspaper (e.g., *Times-Picayune*, *Dallas Morning News*, etc.) or local chambers of commerce, to get their input on recent relocations, expansions, or recruiting efforts that may impact this industry and/or confirm this analysis.

Chapter 8
The Other Customer: Productivity-Enhancing Services for Employers
Strategies to Help Employers Address Human Resources Challenges

by Richard Froeschle

The nine most terrifying words in the English language are,
"I'm from the government and I'm here to help." — Ronald Reagan

Historically, the primary customer of workforce development programs has been the job seeker, otherwise known as the "participant" or "resident customer." These programs delivered labor market and career information (LMI)—as well as assessment, transportation, child care, and other services—to resident customers who met specific income or employment status criteria. In that context, LMI included lists of job openings, projected occupational employment demand, regional industrial growth projections, prevailing occupational wage rates, and—occasionally—contact information on local employers likely to hire persons with specific skill sets. In general, program case workers used LMI primarily as a tool to help program-eligible resident customers make career decisions.

The passage of the Workforce Investment Act of 1998 (WIA) changed that. WIA calls for local boards to deliver useful information to a "universal customer" population that includes *all* interested parties—regardless of eligibility for government assistance. This universal customer includes job seekers, education and training providers, community-based organizations, faith-based organizations, and employers. Indeed, by broadening the definition of "customer," the WIA opens the door for a new relationship with local employers. It fosters the creation of a demand-centered approach to regional workforce development, wherein employers have a much larger stake in the kinds of data that local boards gather and how local boards disseminate and use labor market information. In short, the WIA turns employers into the local board's "other customer."

Employers are the local board's "other customer."

This essay explores the notion of employers as customers of the workforce development system, provides some clues about employer expectations, and helps define the role of a workforce board as part of the private sector "supply chain." In addition, this essay offers specific activities and ideas that a Workforce Center or board representative might offer employers within a repertoire of services. This list, by no means exhaustive, hopefully will stimulate some thought about what services the public sector has to offer employers.

Attracting Local Employers to Local Board Services

In the demand-centered workforce development model, employers' status as local board customers equals that of any service-eligible job seeker, education and training provider, or community- or faith-based organization. This status gives local boards an entirely new perspective. Private sector employers tend to view labor supply issues very differently than state and local government employees approach the task of arbitrating training and support services to residents. To succeed, local boards must approach their employer customers with the attitude of a private, competitive company. Just as Private Industry Councils (PICs) once tailored "core services" to service-eligible job seekers under the Job Training Partnership Act (JTPA), local boards must now provide a full compliment of products and services that employers view as necessary, valuable, and germane to their business operations. Moreover, employer-oriented products and services must demonstrate value and be priced competitively with those that employers can purchase from any other private supplier. In today's economy, where the private sector grapples with high turnover and ever-more stringent labor laws, government-sponsored workforce development programs must compete with private sector businesses that seek to carve out a lucrative market niche by providing human resource management services.

Local boards must compete with private firms to meet employers' human resource management needs.

The fact that local boards can provide "free" services will not guarantee that employers will want to work with them or with staff at a Workforce Center. In fact, local boards might well charge fees for their services. Veteran employment and training administrator and consultant Bob McPherson emphatically made that point in a 1997 monograph entitled, *Designing a Local Workforce Services Delivery System*. According to McPherson, most employers, especially high-performance organizations, "prefer building ongoing relationships with quality suppliers of human resources services, either public or private." The operative word is "quality." If the only "free service" employers receive from representatives of government-sponsored programs is exhortations to help disadvantaged job seekers, employers would rather pay for what they perceive as genuinely value-

added services delivered by private sector for-profit firms. Conversely, if employers see real value in government-sponsored programs, they are not likely to quibble about the reasonable imposition of fees for services. Nothing in state law or the WIA compels local boards to provide anything except the essential services to eligible job seekers for free. Nothing prevents them from devising ways to generate program income for value-added services to employers.

Viewing employers as customers on an equal footing with job seekers and generating program income by providing these customers with genuine value-added products and services—these are new concepts for most local boards. For decades, the vast majority of workforce development rhetoric and funds have been dedicated to serving the needs of job seekers. When obliged now to address their new customers, Workforce Center staff may be tempted immediately to ask, "What do you need?" Unfortunately, this well-intentioned but naïve inquiry is often met with exasperated expressions from employers—expressions that can be interpreted loosely as, "If you don't know what we need, why are you in this business?" Point well taken.

To get off to a good start, local board staff should look at the already abundant literature on employers' expressed human resources needs and desires before asking employers themselves. Staff can then devise an innovative set of core services that they know they can provide with consistency and quality at a competitive price (not necessarily for free). A Workforce Center probably should start by providing simple information services. They might distribute pamphlets that help employers understand and comply with rapidly changing and complex labor laws, payday laws, or the Family Medical Leave Act. Or they might provide them with helpful information on how to file unemployment compensation reports or dispute a workers' compensation or unemployment insurance claim.

Before approaching employers, local boards should research what employers need.

Remember, employers view labor-related issues differently than do job seekers. To be effective, Workforce Center staff may need to put themselves at arm's length from both sides. This impartiality may be difficult, especially for those government workers who previously viewed themselves as job seeker advocates under JTPA and other federal employment programs. To combat that old view when preparing materials for distribution to employers on workforce development issues, employer representatives on the local board should check for lingering vestiges of worker advocacy. Let an employer-dominated focus group validate or test-market materials before disseminating them to the balance of the employers in the community. Ultimately, the goal is to broaden the perspectives presented in *all* customer materials.

Be careful initially to offer employer services only on a limited basis. Do not promise more than you can deliver. Keep in mind that most services a local board can provide will only supplement what employers already do for themselves or can obtain elsewhere. This competitive environment differs greatly from the conditions under which government-sponsored workforce development programs delivered services primarily to job seekers. Under JTPA, the PICs often were the "only game in town" for economically and educationally disadvantaged job seekers. If the PIC failed to deliver, service-eligible job seekers probably had no recourse. Employer-clients, on the other hand, comprise a potentially lucrative market for human resource management service providers. If the local board fails to deliver what it promises, employers easily can take their business to an opportunistic for-profit firm that will deliver. Already, private organizations such as ACT, Inc. provide computerized testing and training services for a fee, potentially competing with local boards.

Start small. If the local board doesn't deliver on its promises, employers will go elsewhere.

Starting on a small scale has another advantage: the creation of champions. Take special care to serve the first employer-customers well. Establish the local board's reputation for delivering excellent services as promised at a reasonable price. Then capitalize on that goodwill by obtaining references and referrals from the first employer-customers who realize the benefits and value of the services they received. Make them champions for the local board. Their authentic testimonials persuade more of their fellow employers than any marketing materials you could draft in the backroom.

Only after you have built a small but enthusiastic and loyal base of customers in the employer community for core business services should you ask employers what additional services you might provide. At this stage, posing such a question will no longer be perceived as naïve; rather, it will convey the local board's genuine commitment to continuous improvements of their employer services. Gradually add employer-requested products and services to the repertoire, making sure you can achieve what you promise. *This approach is no different than any private for-profit entity would take when trying to build a business!*

Offering Various Types of Services for Employers

The WIA only hints at the possible range of services local boards can offer the employer community. In fostering the devolution of authority to the local level, the WIA bestows on local workforce boards both considerable responsibility and wide latitude for service delivery design and operations. Outlining the local boards' responsibilities in broad terms, the WIA roughly enumerates strategic program areas that offer opportunities to serve the needs of employers. We define these strategic areas as Basic Labor Exchange, Temporary Assistance for Needy Families (TANF) Work Activities (i.e., welfare reform, "Work First"), Skills Training, Self-Service One-Stop Assistance (e.g., career information), Support Services (including Child Care), Direct Employer Services, and Operations Management.

Not all of these areas have equal significance to the private sector. Employers view Unemployment Insurance (UI) administration, for example, as purely a government function. Providing self-service career information directly to resident customers is an important function but it does not directly benefit employers. However, there are products and services of direct value to the employer community that fall clearly within one or more of these strategic areas. This section offers suggestions for services in five major strategic areas:

1. Basic Labor Exchange (Employment Service)

These operations directly meet employer needs by matching job seekers with employers that need appropriately skilled workers.

2. Skills Training

Under the WIA, only eligible providers—certified primarily on the basis of the labor market outcomes achieved by prior program completers—can deliver training to individuals bearing local board-issued vouchers. Local boards can ensure that training providers gear services such as basic education, classroom, and/or on-the-job training (OJT) to local employers' skills needs and hiring criteria. In this way, they help prepare workers to meet employer needs.

3. Support Services

Support services such as child care help individuals remain in the workforce.

Support services include helping job seekers find someone to care for their children while they work, arranging transportation to the worksite, and finding ways to pay for these services on behalf of program eligible job seekers. While service-eligible job seekers are the direct beneficiaries of such services, employers benefit indirectly. Studies have shown that, despite adequate training and appropriate skills matching, many service-eligible individuals return to the ranks of the unemployed because of factors (such as lack of child care or reliable transportation) that impinge on their *availability* for work rather than their *capacity* to do the work. With support services, employers may lose fewer employees to such problems.

4. Direct Employer Services

As the title suggests, this category benefits employers directly. Under the WIA, direct employer services activities include applicant screening and referrals, job development, marketing, rapid response to worker dislocations and trade adjustments, and improved human resources practices, among others.

5. Operations Management

Texas House Bill 1863 of 1995 and the WIA assign more authority and responsibility to the local level, prescribing fewer operations management procedures for local boards but demanding more accountability for results. This policy frees local boards to be more innovative and responsive to local conditions.

While internal operational considerations could seem to have little direct bearing on serving the needs of employers, this category may well be the most important of all. Through operations management the local board sets its overall tone. Through its selection of contractors to deliver services, its certification of education and training providers, the rigor it imposes in labor market targeting and labor market driven case management, the local board sends a message. It can remain primarily job seeker oriented, like the PICs under JTPA, or it can embrace the new model, putting employers on an equal footing with job seeking customers.

Providing Employer Services as Effectively as Possible

Currently, local boards across Texas are in the process of configuring the service mix they can and should provide to job seekers and employer-clients in their surrounding communities. Some services are mandatory (i.e., they are required as a condition of the local board's continued funding). Other functions result from staff creativity and community involvement. In the end, the degree to which local boards embrace the idea of treating employers as customers will vary from one service region to another. It will depend on how deeply the old JTPA "client advocacy" model remains etched into the mind set of staff contractors and local board members, how actively employer representatives participate on the newly formed local boards, and the extent to which the employer community as a whole insists that their needs factor into any calculation of the return on investment of tax dollars in workforce development programs.

Local boards will have to decide how to best serve both resident customers and employer-clients.

Assuming that the case has been made for an employer-as-client mentality, each local board must build an appropriate mix of services into its strategic plan. In fact, it follows that the labor market analysis component of the strategic plan should guide what types of services the local board should provide to resident customers and which to employer-clients for an overall optimal service blend to improve regional workforce development. The labor market plan should help identify growth industries, occupational skill shortages, and other employer needs, while also documenting the demographics of the regional residents most likely to avail themselves of program services.

The federal government has funded employment and training programs in the United States since the 1930s and the notion of strategic planning and employer participation is not new. Unfortunately, audit reviews by the federal General Accounting Office have shown predecessor programs to be less than spectacular success stories. To be sure, pockets of success exist. As a study of JTPA planning effectiveness conducted by Chris King, et. al., revealed, the successful programs are concentrated in areas where PICs gave serious consideration to employer needs in their strategic and operational planning, program management, and program evaluation. If stakeholders wish to garner higher returns on the investment of tax dollars in workforce development, they must get a better handle on what worked for whom and under what conditions. The collection, analysis, and dissemination of labor market information, the development of a thorough labor market plan, and the synthesis of labor market information in making decisions regarding service mix are crucial to a local board's success.

Research suggests that successful programs include employer needs during planning, measurement, and evaluation.

Toward this end, this essay supplies a "smorgasbord" of labor market information services and activities that any workforce staff can offer. Some are commonplace and their value to employers nearly self-evident, requiring little elaboration. Others are sufficiently novel or represent such wide departures from the old JTPA orientation that more detailed explanations are provided to help both the local boards and employers understand their value. Some strategies may be more useful than others; some may not apply in all areas. Each local board should determine which options best fit local needs and conditions. While these creative uses for widely-available labor market information—especially in human resources functions—cannot guarantee employer involvement with the local board, they can provide added inducements for local employer participation.

A Smorgasbord of Ideas for Using LMI for Employer-Client Services

The ideas that follow may encourage local boards to reflect on their possibilities. They all focus on labor market information delivery services and show their connection to one or more of the previously-discussed broad strategic areas of the WIA. They reveal how the effective use of labor market information at each juncture produces something of value to employers which, in turn, enables local boards to be more effective in developing services dedicated to the needs of employer-clients.

Strategic Area #1: Basic Labor Exchange

The first set of ideas concern the Basic Labor Exchange function—helping employers find workers and workers find jobs.

IDEA #1
Use the *HIRE TEXAS* and *America's Job Bank* systems to list job openings and provide real-time vacancy surveys of employer hiring requirements.

Marketing the Texas Workforce Commission (TWC) Employment Service (ES) Job Bank, *HIRE TEXAS*, and the *America's Job Bank* (*www.ajb.org*) within the local community and among local employers is a "win-win" strategy. While *HIRE TEXAS* is a real-time non-random sample survey of current job vacancies, its current usefulness as a labor market indicator is limited for two reasons. First, not all employers list vacancies on *HIRE TEXAS*. Many fear that referrals of potentially ill-prepared, unqualified, or inappropriately screened candidates would waste their time. Second, those employers who do participate tend to post predominantly entry-level, low-skill, or mandatory job openings. As a result, selectivity bias prevents *HIRE TEXAS* from truly representing the universe of available jobs in the community. It does not reflect the labor market as a whole, making it a very imperfect indicator of labor shortages or occupational growth.

Local boards must address employer concerns when encouraging them to participate in *HIRE TEXAS*.

This situation may change. Like the *AJB*, *HIRE TEXAS* now has the ability to independently list openings directly through the Internet. This feature may increase employer participation and capture a much wider array of available job openings in real time. This expanded real-time capability surpasses in quality and scope more conventional job vacancy surveys or estimates of

available openings. In addition, by operating in the background of an automated labor exchange, analysts can capture transaction data electronically at a fraction of the cost of conventional surveys. This approach should increase the number of skilled applicants aware of job opportunities with area employers while giving employers access to a broader labor pool, ultimately enabling "supply-side" job seekers to transition into private employment, with or without publicly-funded intervention services.

To create this scenario at the regional level, local board members and staff must convince employers of the value of listing their job openings through the TWC and the *AJB*. They should promote traditional benefits of participating in TWC's ES, such as screening and referral. In addition, staff should emphasize to employers that Internet job postings reach a very broad band of potential job seekers. Because the Internet does not have the same geographic limitations as classified ads in the print media, for example, *HIRE TEXAS* and *AJB* postings may attract scarce-skilled labor from far and wide. Employers benefit from the expanded available labor pool, a feature particularly attractive to employers who face critical labor shortages. At a minimum for such promotional efforts, all employers who sit on the local workforce board should post all their companies' job openings through *HIRE TEXAS* and *AJB*.

IDEA #2
Provide resident customer skills evaluation and assessment services to determine if an individual is job-ready or needs additional basic education or skills training.

Facilitating good matches between workers and jobs requires an intermediary (such as a case manager or counselor) who knows something about the characteristics of both the job seekers and the labor market. Intake interviews can ascertain some of the simple facts, such as the travel requirements of a particular job *versus* the reliability of job seeker's vehicle or access to public transportation. Case managers can obtain more in-depth information, including the resident customers' interests, abilities, work values, etc., through objective assessment.

Local boards might perform job seeker skills evaluations for a fee.

Job seeker "testing" is not new to workforce development but some new products make it easier. Local boards may well profit from offering such testing services. The O*NET, a recent initiative by the U.S. Department of Labor and partner states, contains four different assessment instruments to help job seekers identify the kind of work at which they are most likely to succeed (see *www.doleta/programs/onet/*). To access O*NET data in an attractive, user-friendly format, local boards can purchase *OSCAR*, a software package

provided by Career Development Resources (CDR, formerly the Texas SOICC) for a nominal reproduction fee. Job seekers can take *OSCAR*'s *Interest Profiler* and *Work Values Locator* assessments and the computer-generated results appear on-screen immediately. Because these new batteries provide information essential to matching job seekers with job openings, they fall within the WIA's broad definition of labor market information. Moreover, they help case managers make job referrals that are more likely to result in a good match for both the employer-client and the job seeker.

Strategic Area #2: Skills Training

The next ideas address local boards' skills-training function. They suggest a variety of methods to create a workforce with the skills and knowledge that employers need.

IDEA #3
Ensure that training curricula and basic competencies taught by eligible training providers tie directly to employers' hiring requirements.

The WIA legislation ties workforce development inextricably to the "work first" model of welfare reform. Many job seekers who receive public assistance, however, lack basic education or workplace skills to compete for jobs that might lift them above the poverty line. The WIA gives local boards the authority to issue training vouchers to eligible participants who need additional instruction to improve their competitiveness in the labor market. Local boards must ensure that individuals use the vouchers to obtain *relevant* training from certified providers. The WIA therefore requires them to follow an elaborate provider certification process. This certification guarantees that the curricula offered matches skills in demand in the local labor market. It relies on the labor market results achieved by prior cohorts of program exiters as evidence that subsequent program enrollees will likely benefit from comparable training.

WIA stresses that job seekers receive *relevant* training from *certified* providers.

The WIA stresses that the skills imparted by a training vendor must be consistent with those required by area employers for good reason. Historically, most workforce agencies have *presumed* that if a local provider (such as a community college) offered a training program, area employers must have already validated the curricula. While this assumption was true in some cases, in many others providers had not updated the curricula to address the knowledge, skills, and abilities that employers actually demanded from job applicants.

Convincing everyone of the importance of providing appropriate skills is easy. Verifying that providers actually teach resident customers these skills is not. A local board may wish to facilitate conversations between eligible training providers and local employer groups to validate essential elements and learning objectives in occupational skill training areas targeted by the local board. Such focus groups benefit everyone involved. They put employers and educators in the same room—in some cases for the first time—to forge an alignment of course objectives with the knowledge, skills, and abilities employers expect among their workers. Educators benefit because they have a forum to solicit employer input, which most of them welcome. The local board benefits because workers who receive relevant skills training are more likely to get a job, keep a job, and experience higher earnings—all of which comprise the new performance measurement system that drives funding under the WIA. Finally, employers benefit by helping to create a pool of skilled potential workers that they can hire in the future.

Recipients of job-related training are more likely to get a job, keep a job, and earn higher wages than those whose training did not directly relate to their occupation.

Local boards unaccustomed to this facilitation role might not know how to start the process. Occupational profiles in automation tools like the O*NET or *OSCAR* provide excellent points of departure for stimulating focus group discussions. They include considerable detail in their profiles, including task and duty lists and descriptions of the knowledge, skills, and abilities required of workers to perform competently in each occupation. Such concrete examples give employers and educators a common point of reference, making communication between the two groups more effective.

IDEA #4
Identify skills shortages areas and target occupations in the regional labor market on behalf of the community.

Federal mandates to develop joint strategic plans, which include identifying targeted industries and demand occupations, cross-reference several education and workforce development programs. As a result, traditional school-aged students and adult workforce development program participants alike see confusing and often conflicting lists of "hot" targeted occupations. Clearly, the advantages of having a commonly recognized local list of priority occupations are overwhelming, but who would create it?

By becoming the primary locus of educator-employer interaction, a local workforce development board can bring order to the chaos. As its reputation for impartial and insightful analysis and truthful communications grows, a local board's list of targeted occupations will displace all others as the definitive

statement of regional targeting priorities. Real progress can be made toward community and economic development only when all stakeholders start proverbially "singing from the same hymnal" and champion a single target list of demand occupations.

How can you devise a list that supplants all others? The answer is a simple, inclusive process that provides documentation at every step. You can begin by generating a list of target occupations that offer significant numbers of job opportunities that lead to economic self-sufficiency and financial independence. (See Chapter 5: *Where Are the Jobs?* for a detailed targeting methodology. See Chapter 7: *Getting Started* for a case study of the process.) Next, you get approval for the list from the local school board(s) and community or technical college(s). The support of the educational community and the local board lends the impetus needed to drive the subsequent alignment of funds for training, support services, and individual service plans in ways that appear almost seamless to all customers.

The Tech Prep articulation model provides an excellent example of this program alignment. Tech Prep courses completed or competencies attained at the high school level connect with course work at the postsecondary level. Tech Prep also involves local employers throughout the process. Such well-planned articulation best begins with a solid understanding of the employment opportunity offered by the local labor market—the list of target industries and demand occupations.

IDEA #5
Help employers take advantage of wage subsidy and customized training programs.

Local boards can help employers leverage public funds to pay for employee training.

Several programs in Texas help employers leverage public sector worker training dollars. Three programs of particular note include the Self-Sufficiency Fund, the Texas Skills Development Fund, and the Smart Jobs Fund. Although state-level staff primarily administers these programs, at least one person in each local Workforce Center must be familiar with their benefits, limitations, requisite collaborations, and the necessary contact people if local boards are to facilitate funding applications by interested employers in the region.

These programs serve as excellent—often untapped—resources for employers. The Self-Sufficiency Fund, for instance, makes grants available to eligible public colleges and private organizations to provide customized worker training for specific employers who are willing to hire persons receiving TANF or Food Stamp benefits. Similarly, in cases where helping existing workers acquire or expand their skill base jobs will either create or save jobs, the Texas Skills

Development Fund allows local community and technical colleges to partner with local employers to provide customized training. In both cases, local board staff can assist employers in drafting an application for funds—complete with necessary labor market information to document the anticipated positive employment and economic impacts of the proposal. Helping local employers leverage public sector training dollars—even those not under the direct control of the local board—can be a valuable service indeed.

IDEA #6
Identify potential On-the-Job training slots in the local community.

In some regions, the economic base is stagnant, undiversified, or otherwise incapable of absorbing all the completers of local large-scale classroom training efforts. To continue to receive state funding, public community and technical colleges must graduate at least fifteen students from a program every three years according to the rules of the Texas Higher Education Coordinating Board. Where there are too few occupational employment opportunities to absorb those graduates, local boards can work with economic development entities to boost demand by bundling specialized worker training and other incentives to entice firms to relocate to or expand their operations in the service region.

Where modest demand exists but falls below the state funding threshold, the best approach is to facilitate worker training by matching individuals with on-the-job training (OJT) slots offered on a small scale (e.g., one or two at a time) by local employers. Local boards can use—on a smaller scale—the process for targeting the delivery of classroom training to identify OJT opportunities, especially among smaller employers, and to solicit employer commitments to do the training. Armed with knowledge of an employer's skills requirements and authorized to allocate public funds for additional worker training as an added inducement, a local board's business services representative can solicit OJT slots.

In some cases, local boards can facilitate worker training by placing individuals in on-the-job training positions.

In some cases, employers may be reticent to provide OJT because they are on the verge of dislocating incumbent workers. The Texas Skills Development Fund (TSDF) program assists employers by coordinating worker training through a community or technical college to incumbent workers who might be subject to layoff unless they receive skills upgrade training. The TSDF, administered by the TWC, is an excellent example of local government, the Texas community and technical college system, and private employers combining resources to their mutual benefit. The WIA dislocated worker funds can be used for similar purposes.

Strategic Area #3: Support Services

The following ideas concern support services that enable workers to meet obligations to employers.

IDEA #7
Identify the supply and demand situation for regional child care slots.

The availability of child care services has become one of the most important factors in allowing former welfare recipients to transition into unsubsidized employment and in enabling the so-called "working poor" from requiring public assistance. This issue matters to resident customers and employers alike because in most cases both the availability for work and continuous attendance at work are predicated on available, affordable child care.

At the very least, local boards can offer data about the region's child care costs, availability, and so on.

While child care does not generally fall within the realm of labor market information, providing the supply/demand situation of child care slots, relative costs, and area demographics is a potentially important information service. According to investigators at Texas A&M University, in 1998 there was roughly one child care slot available for every 1.31 Texas children aged 0-5. This percentage varies by region and generally is lower for weekend and after-hours periods for which there is an increasing demand and yet still limited supply of slots. The Texas Association of Child Care Resource and Referral Agencies, under contract with the TWC, has developed an extensive profile for all 254 Texas counties regarding many of these demographic and child care availability variables. Local boards can download a report for any given county from TWC's Internet webpage and share it with employers and job seekers who need to make arrangements for child care services.

IDEA #8
Provide back-up child care services.

As the labor market gets tighter and more parents transition into the workforce, child care availability will become increasingly critical to individuals and employers alike.

Back-up day care consists of providing child care services to employees when a nanny or regular babysitter is sick or when schools close during the work week. A recent survey by Hewitt and Associates of 1,000 large firms found that back-up child care constituted one of the fastest growing segments of the child care

industry. Indeed, according to the survey, thirteen (13) percent of the surveyed companies provided back-up child care to their employees. According to Boston-based child care provider ChildrenFirst Inc., employers find that back-up day care helps them retain workers. It also costs them less to buy slots in a back-up center which employees take turns using rather than build a costly center for just a few children. Provision of such innovative services by local board contractors to area employers could prove to be the type of "win-win" service for employers and workers envisioned under the WIA—and possibly generate revenues on a fee-for-service basis to augment funding for additional child care slots.

Strategic Area #4: Direct Employer Services

Previous ideas have focused on creating "win-win" scenarios for resident customers, the local boards, and employer-clients alike. The next—and not surprisingly the largest—set of ideas focuses on services that directly assist employers in a wide variety of ways.

IDEA #9
Help employers understand and comply with labor law and workplace regulations.

The interpretation of many labor laws affecting small- and medium-sized businesses can be challenging. A quarterly newsletter or an e-mail notice delivered through an Internet listserve address targeted to employer workplace issues would be an excellent vehicle to let the private sector know that the Workforce Centers reliably supply technical assistance on existing regulations and stay ahead of the curve by closely watching pending legislation. In your communications, include references to your website, the TWC website, and other sites that would describe industry trends and help employers with employment law issues, filing unemployment insurance claims, and certifying immigrant labor. You may also write selected employer profiles. Include your own litany of local employer services! Finally, you could subscribe to newsletters such as *You and the Law*, published by the National Institute of Business Management, that you can make readily available at local Workforce Centers.

Local boards can produce newsletters to help employers interpret labor laws.

IDEA #10
Offer downsizing employers transition services, worker profiling, and reemployment services.

Layoffs cost a tremendous amount in actual dollars for severance packages, lost productivity, loss of morale, and Unemployment Insurance (UI) compensation claim payments. Since UI drawdowns occur every week an eligible person receives benefits, employers want their former employees to find new employment and stop filing UI claims as quickly as possible.

Local board resources can help employers defray the costs of downsizing.

Local boards have several resources to assist employers in easing workers' transitions to their next jobs. Dislocated Workers services aid those who have lost their jobs in mass layoffs or plant closings or who have been laid off and are unlikely to return to their jobs. The state TWC office offers "Rapid Response" early intervention services to dislocated workers when a layoff or plant closure includes fifty or more persons. Rapid Response services include job search assistance, access to labor market information, and group stress and/or financial management seminars. Local business services representatives should remind employers undertaking layoffs that these transition services exist.

Certain terminated employees may warrant greater intervention than others in order to reduce UI claims and local boards can help employers by identifying these individuals. Local boards can use the Worker Profiling and Reemployment Services Initiative to assess UI claimants' characteristics and estimate the likelihood of their exhausting their benefits before obtaining another job. This statistical process serves as an early warning system, enabling service providers to give greater assistance to persons whose transition will likely be more difficult and costly to employers.

IDEA #11
Help employers find available workers through outreach and recruiting.

In times of low unemployment and general labor shortages, attracting and retaining a skilled labor force becomes a primary employer concern. Since today job hopping seems to show initiative and ability rather than untrustworthiness or incompetence, employee turnover will likely remain at high levels. Recruiting will be necessary all the time. Based on conservative estimates, turnover costs Texas employers almost 11 billion dollars a year. By tapping into pockets of potential workers not generally or previously considered, employers may avoid both costly work slow downs and the need to abort expansion plans dictated by consumer demand. Some strategies to consider "untapped" workers follow.

A. Expand immigration potential. A Central Texas construction manager recently predicted what would happen if all illegal immigration disappeared, saying, "It would shut us down, and I cannot think of a single construction company that could operate." Many non-citizens receive work visas to prevent such shut downs. When evaluating how your local board addresses this service, ask:

- Does your Workforce Center assist employers in I-9 verification?
- Is your staff familiar with the process for getting a work permit or visa for a foreign national?
- Do you know the difference between an H1B application for workers with specialty skills and an H2B application, which focuses on temporary non-agricultural work permits?
- Do your regional offices have the appropriate staff and contact information for the Alien Labor Certification program?
- Can you provide necessary supply and demand information to help employers build a case for hiring foreign workers to fill specific occupational shortages?

Facilitating the work permit and visa application processes is potentially very valuable to local employers—especially high technology and software development firms looking for programmers (H1B), and hospitality, construction, and landscape firms (H2B).

B. Take advantage of demographic diversity by dipping into gender, age, and racial/ethnic groups with historically lower labor force participation and higher unemployment rates. Do you have outreach strategies for engaging potential workers in each of these categories?

C. Develop an understanding of the spatial distribution of your region, e.g., where your resident population lives, its proximity to public transportation, the dynamics of various subpopulation's growth trends, etc., to facilitate targeted recruitment efforts. Are you familiar with the spatial distribution of your regional population so that you can assist employers in targeting recruitment efforts where pockets of specific population groups live?

An axiom among labor market economists stipulates that the distance people will travel to work varies according to the wage rate. Someone willing to commute seventy-five miles each day to work for $50,000 per year may be willing to travel only twenty miles from home to take a $30,000 job. Charting

work-related travel distances is called "iso-time curve analysis." With current Geographic Information Systems technology, it is relatively easy for local boards to provide an employer with computer-generated maps depicting the potential labor pool for any given wage rate. When overlaid with population dispersion maps—depicting where people live within the region—you can readily tell an employer quite a bit about potential labor supply availability. Such information might convince an employer that a shuttle service or some other form of transportation or housing allowance may be necessary to make the firm's job openings more attractive to any given labor pool. This geographic approach lies also at the heart of firm-specific labor availability studies.

D. Assist in employer recruiting through creative marketing, such as radio spots, print ads, career fairs, web-based promotions, and so on. Do you have innovative ways to get the word out to potential workers on behalf of employers? Does your marketing campaign for general local board services include the possibility for attaching customized, employer-specific messages? Do you offer cost reductions or incentives for employers who provide job listings with TWC's Job Bank, *HIRE TEXAS*, to participate in group advertising or promotions? Do you offer employers advertising space on the local board's website? Effective local board marketing would cost employers less than hiring a marketing firm—and draw them closer to local board operations.

E. Provide a forum for employers to post their job openings publicly. The Internet-based *HIRE TEXAS* program allows job seekers to view available job openings listed by employers. For companies recruiting on a national scale or with facilities in multiple states, the *America's Job Bank (AJB)* provides a vehicle for attracting potential workers situated anywhere in the world. Have you encouraged regional employers to post their openings on the *AJB* or *HIRE TEXAS*, with or without you as an intermediary?

In the same vein, ensuring that your job seekers post their résumés online can help employers who are hiring. Have you encouraged the use of *America's Talent Bank (ATB)*, a free companion service to the *AJB* also provided courtesy of the federal government? Soon, through an electronic "job scout," résumés posted on the *ATB* will trigger automatic e-mails to the applicants when the *AJB* posts jobs that match their skills profiles. The reverse service is planned for employers. In the meantime, you can notify employers by e-mail when persons with the skills they desire post résumés with the local board. This electronic transactional labor exchange approach is receiving major attention and funding by the U.S. Department of Labor.

By encouraging employers and job seekers to post openings and résumés online, local boards can promote matches for both groups.

F. Take advantage of more than just government-funded job posting systems. Remember that, bottom-line, employers want to attract a broad talent pool and fill skill needs; they do not care who gets credit for a "placement." Many private Internet job-posting services may be useful in casting the net widely in search of worker skills. Have you investigated or established an alliance with a private headhunter, job placement, or Internet job-posting service so that employers can come to you for "one-stop shopping?"

G. Contact military personnel prior to their exiting the service. Today, while some exiting service personnel receive encouragement to seek positions in the government, many exiters choose to enter the civilian labor market instead. To help this group, the military offers a service called the Transition Assistance Program (TAP) as a joint venture between the U.S. Department of Labor and the Department of Defense. TAP directors can be a valuable resource for local boards who want to better assist employers.

Helping individuals transition from military to civilian work need not be difficult. Employers can leave standing job orders with the TAP director for workers with specific skills and abilities to ensure applicants have the right qualifications. You also can help employers assess the qualifications of separating military personnel for civilian jobs by helping them understand and use the tools which crosswalk the Military Occupational Specialty (MOS) taxonomy to the more commonplace taxonomies in the private sector, such as the Occupational Employment Statistics (OES), the Dictionary of Occupational Titles (DOT), or the new O*NET (SOC) codes. To identify the TAP director in your area, call the state office at (512) 463-2815.

Military personnel moving into the private sector may form a pool of potential employees for local firms.

H. Work with other local employment and training programs to tap into their resident customer pipeline. Do other programs not under local board control have potential workers for your local employers? Even though WIA's passage and TWC's creation consolidated many workforce programs in Texas, other local community-based programs and faith-based institutions may provide a wider source of job applicants. Including such organizations in your recruitment efforts may increase the likelihood of filling vacancies for employers.

I. Investigate working arrangements with the state criminal justice system, including youth and adult parolees programs (e.g., Project RIO), work release or furlough programs, and activities of the Texas Youth Commission. You might also work with the Texas Department of Criminal Justice (TDCJ) to establish production facilities within the prison system. The Private Industry Enhancement (PIE) program provides exemptions from state

and federal laws which ordinarily prohibit using convict labor to produce goods for interstate commerce. For PIE-certified programs, a private employer can operate a production facility inside a prison so long as it pays inmates the prevailing market wages (comparable to those received by non-prison workers who produce similar products and services). For more information about this program, contact the TDCJ's PIE Coordinator at (512) 406-5750.

J. Help employers introduce their business/profession to young people. Encourage employers to get involved with the local community by sponsoring local sports teams, participating in community parades or picnics, or underwriting local high school events. Assist employers who want to offer mentoring and job-shadowing experiences. Persuade local employers to get involved in state and local School-To-Careers and Tech Prep programs whose purpose is to introduce interested, participating young people to the world of work.

Educating young people about careers and employers directly benefits employers. Most youngsters form impressions about occupations based on what they see on television and in movies. Unfortunately, these media sensationalize some occupations for entertainment value. Those they cannot dramatize seldom—if ever—appear. Thus, most youths are unfamiliar with the many excellent job opportunities in the printing trades, information technology, and manufacturing sectors, for example. If employers in these sectors want to attract new labor force entrants, they must introduce students to their industries.

K. Educate employers about the advantages of employing people with disabilities. With passage of the Work Incentive Act of 1999, people with disabilities may now earn income without losing their federal health insurance. Consequently, more people with disabilities will likely seek jobs than ever before, providing a valuable resource for employers who face a tight labor market. You can ensure that employers consider this population in their recruitment efforts.

Some employers may be reluctant to hire individuals with disabilities, unaware that both state and federal legislation offer benefits to employers who do. The Work Opportunity Tax Credit, for instance, reduces the tax liability for private-for-profit employers who hire, among others, employees with documented disabilities. Similarly, Title 44 of the Internal Revenue Service code allows a Disabled Access Credit to employers who accommodate the needs of people with disabilities as specified in the Americans with Disabilities Act. In some cases, the Texas Rehabilitation Commission (TRC) or the Texas Commission for the Blind (TCB) provide adaptive equipment to employees with severe disabilities in order to place them into competitive employment. For more information about opportunities to work with people with disabilities and the advantages of doing so, contact the TRC, TCB, or a rehabilitation service provider in your area.

IDEA #12
Help employers enhance the productivity of their existing workers.

Maximizing worker productivity is not just a question of doing more work with fewer people. It also means increasing the knowledge and skills of the existing workforce to produce higher quality products or services in the same amount of time. One answer to labor shortage problems is to become more creative in working with your employees to create "win-win" situations for both the workers and their employer. Local board staff can counsel and encourage employers to adopt best practices designed to optimize their existing workforce. They should:

A. Counsel employers to offer greater workplace flexibility. Employers can maximize the productivity of existing workers by simply accommodating their life/family situations. Employers might change traditionally full-time positions into part-time employment, for instance. Over 20 million Americans—one-fifth of the workforce—hold part-time jobs. Interestingly, over 75 percent of them do so voluntarily. Employers can also offer flexible work schedules. In 1991, only 15.1 percent of the workforce had the flexibility of alternate schedules; by 1997, 27.6 percent of U.S. workers had the option of working "atypical" hours. Flexible working arrangements such as job-sharing or telecommuting also help employers retain productive staff who might otherwise change jobs to accommodate their personal schedules.

B. Provide employee services to help workers balance the often conflicting demands of family and work. In some cases, relatively inexpensive benefits such as child care (or back-up child care), dry cleaning, concierge services, exercise facilities, cafeteria, pet kennels, etc., can keep employees from "jumping ship." A local board can help employers create a workplace environment that demonstrates commitment to worker needs in a variety of ways. The local board can simply supply a directory of local providers of personal services or go so far as to broker partnerships for these services by creating a consortia of employers willing to pool resources.

C. Help employers automate routine activities to free their workers to do more productive, creative work. Most workers do not like doing the same task every day—especially mundane, repetitive tasks that could be automated or bundled with other more interesting duties. Employers can relieve them of such chores by replacing manual data entry with scanners and voice-activated dictation software, for example, or using automated Internet e-commerce to take merchandise orders with minimal human intervention. Local board staff can make management consultants available for groups of interested employers, including time and motion study experts, computer and automation specialists, robotics designers, and so on. Most employers would rather restructure jobs than recruit and hire new employees; it usually costs far less.

IDEA #13
Help employers train existing workers to enhance their internal mobility.

Workforce development programs historically have focused on persons already unemployed. Continuously investing in incumbent workers, however, benefits everyone. Workers who acquire new skills and knowledge demonstrate enhanced productivity and improved output. Internal promotions reward workers for performing well and reduce the costs of recruiting and external hiring. Ultimately, promoted workers vacate slots that become available to the next generation of workers.

Local board staff can encourage employers to take advantage of opportunities to enhance the skills of their existing workforce in the following ways. Staff can:

A. Arrange for on-site pursuit of Associates degrees or adult basic education in collaboration with the local community or technical college. Educators often are amenable to on-site programs, especially if the employer pays the workers' tuition and/or customized instruction includes the use of the employer's equipment, tools, and materials. Such "guaranteed" contract training gives the college a fixed budget, and, especially if it can modify off-the-shelf curriculum, an additional profit center.

Generally, employees best acquire knowledge, skills, and abilities when the learning situation replicates or simulates real working conditions. Actual worksites, however, are often too chaotic and fast-paced to permit the kind of reflection necessary for "students" to synthesize and absorb fully their on-the-job learning experiences. Structured on-site programs, which integrate a college curriculum into the workplace environment, can provide the best of both instructional modalities: authentic replication of the workplace coupled with leading edge academic instruction.

B. Facilitate industry-wide recruiting and training partnerships. Often, all local employers in the same sector of the economy will face common labor shortages—especially for highly skilled workers. A local board can help broker partnerships or consortia-building among local firms willing to share the costs of industry-based competency training.

C. Make employers aware of available distance-learning, interactive, and self-paced training for existing workers. Many Workforce Centers can offer computer or classroom space, arrange for satellite links, or provide lists of on-line education and training programs. A federal labor market information initiative called *America's Learning Exchange (ALX)* is currently compiling a catalog of such instructional programs. Local boards can find this ever-growing directory at *www.alx.org*.

Distance learning programs, on the other hand, present a number of advantages. They offer reduced costs because they: need no facility and sometimes no instructor; include self-paced modules which allow full-time workers to learn at a pace consistent with their work and family schedule; provide convenience of access since many programs are available through the Internet; and offer ease of entry since students can start distance learning programs whenever they want.

D. Encourage employers to influence and shape education and training priorities. Enhancing employer involvement in public education strategic planning ensures that training providers, at all education levels, teach the competencies that employers need. Employers can offer local school boards suggestions about equipment, instruction, and curricula to improve the workplace-relevancy of the education students receive. In fact, educators need employer input if they want to devise relevant and focused curricula that address the actual hiring requirements of regional employers. In addition, schools seek to minimize the amount of course duplication that may befall students as they advance from high school to college. Employers can help by identifying which competencies should be taught at what level of proficiency and in what sequence.

Employers can easily complain about the inadequacies of job applicants, blame local education and training providers, and look elsewhere to recruit labor. You must persuade them of the benefits of participation in the educational planning process. Make it clear that employers must communicate their skill needs to the public education system if they expect graduates to possess the exact skill sets they seek. Motivate them to get involved with local school board activities. Only by being engaged in the educational planning process can they influence what workplace skills are being taught.

E. Encourage employers to enhance employee retention through award and recognition programs, training stipends, scholarships, etc.
Research shows that some employees value recognition and appreciation even over financial compensation. You can encourage local employers to participate in the national Employee Involvement Association (EIA), which trains and supports employers in the most effective ways to involve and recognize their employees. At least, they can suggest employers avail themselves of EIA resources. In addition, local board staff can offer in-house services to help employers prepare plaques and certificates and arrange training scholarships for an employer's incumbent workers or the workers' children. Such services offer an excellent way to leverage public dollars, showcase local workforce development program activities, and highlight individual performances.

The local board can offer its own awards to recognize local employers and employees, raising the local board's profile in the local community.

Finally, local boards can provide their *own* recognition of local employers and employees. Do you offer "Employer of the Month/Year" awards based on employers' work with the Workforce Center or "Employee of the Month/Year" awards for that person(s) who overcame the greatest barriers to employment or advancement? Local boards can get the media involved in award presentations to the mutual benefit of all concerned: recognition for the individual award winner, image enhancement for the involved employer, and publicity to promote the local board's larger mission.

IDEA #14
Assist employers with a wide range of services to address other pertinent Human Resources issues.

If the local board wants employers to perceive the board's initiatives as anything except the next generation of government-run job placement programs, local board staff must understand the specific challenges private employer human resource personnel face and respond with a range of solutions. You might:

A. Take "workplace basics" into account in hiring practices.
Employers have repeatedly, specifically, and forcefully noted that workers do not acquire many of the skills they need exclusively in the classroom. These "workplace basics" or basic skills include effective time management; using, organizing, and processing information on computer; interpersonal compentencies such as customer service and team work; and fundamentals such as reading, writing, mathematics, and listening.

Employers recognize that many of these basic qualities critical to their company culture—and integral to their definition of a "good employee"—are "soft" or intangible. They would appreciate the ability to assess these at recruiting and interviewing time. Local board staff can help employers identify the soft skills their jobs require, evaluate the skills mastery of potential employees in each area, and assist employers in improving the soft skills of both new and existing workers. The new O*NET database (available within CDR's *OSCAR* software) measures levels of workplace basics for over 1,100 occupations and other commercial assessment packages may aid this process. Local board staff can further facilitate the skill acquisition process by communicating the employers' views more effectively to educational institutions that operate related occupational training programs.

Local boards can help employers identify and teach the soft skills they need in their employees.

B. Generate clear and useful job descriptions. Drafting or refining occupational job descriptions is always difficult—especially when a firm's human resources (HR) department is often the last to know about changes in front-line department activities. Rapid change in the workplace makes it especially hard for HR to describe openings and screen applicants when the requisite knowledge, skills, and abilities (KSAs) are incomplete, vague, or in flux.

In response, local board staff can generate occupational profiles that would form the basis for first-draft job descriptions. The federal O*NET initiative has captured detailed tasks, duties, and related job-specific hiring requirements that can serve as an excellent point of departure for employer job descriptions. CDR's *OSCAR* software product captures much of this O*NET information. Using *OSCAR*, local boards can produce profiles that include statements about the tasks and duties of a job, characteristics of the work, and the temperaments and attitudes critical to satisfactory job performance. In particular, small HR departments, or even individuals charged with human resources responsibilities for their organization, can take advantage of such profiles. Employers may need only tinker at the margins to redraft firm-specific job postings that communicate clearly and in a common KSAs language to job seekers. Similar profiles can be found on the Internet at *http://socrates.soicc.state.tx.us*.

C. Improve human resource planning based on labor availability. One strength of the state and federal LMI system is its easy access to occupational supply and demand estimates. Private employers generally have a thorough point-in-time understanding of labor market dynamics. They are less likely to know, however, how their experience fits in the wider picture. Employers may ask, are our hiring problems part of a general labor shortage in the current period only? Are our competitors faring better or worse? Is the shortage unique to our industry or our firm-specific skills needs? Is the shortage affecting the entire region?

Comprehensive occupational supply/demand data help employers answer these questions empirically. They can then develop appropriate strategies, which include altering the occupational mix of their staffing-pattern to adjust for key shortages, expanding recruitment outside the local area, and examining their competitive wage and benefit positions within their community or industry.

D. Establish competitive wage and benefits packages. In economic theory, supply-demand equilibrium only occurs when the wages, benefits, and working conditions of a particular job fall in line with the level of worker skills needed and the work requirements. Many private firms and professional associations produce occupational wage data, but many of their survey-based outputs come with a hefty price tag. Meanwhile, the public sector at both the state and federal levels invests millions of dollars each year to collect occupational wage data—using standardized job titles—for planning workforce development programs and assessing program outcomes. By translating firm-specific payroll titles to standardized codes, employers can readily access a whole world of occupationally-specific wage and compensation data and incorporate it into HR planning and recruitment activities. Local Workforce Centers provide an ideal conduit for this information service since they have direct access to the detailed occupational wage data developed by TWC's LMI department.

Local firms can use local board data to benchmark competitive wages and benefits.

E. Assist employers in compiling federal compliance reports. All firms that employ fifty or more workers must produce an annual report to the Equal Employment Opportunity Commission (EEOC). This report captures the race, gender, and occupational categories of the employers' existing labor force. Private HR professionals can benefit enormously from access to industry-wide profiles for comparative purposes when generating such reports.

Local board staff can help employers—through general technical information or direct aid—prepare those portions of government reports that require region-wide or industry-wide statistical comparisons. Both the Current Population Survey and the decennial Census, for instance, describe the race- and gender-distribution of workers by occupation. These data are particularly useful for employers who seek to maintain a racially and sexually balanced workforce and/or who face discrimination suits challenging their employment practices. Affirmative action data by region can provide both a reference point and a defense against litigation concerning discriminatory hiring.

F. Devise defensible and useful job interview questions. Finding qualified candidates is difficult; finding qualified candidates who fit the specific corporate culture is really difficult. Finding such a candidate through the process prescribed by the federal government is almost impossible—at least it seems so to many employers. Local boards can decrease some of these challenges by educating employers, providing pertinent data, and assuming some of the more onerous tasks, namely applicant screening.

Today, the EEOC rules and case law (e.g., *Griggs v. Duke Power*) require employers to be very circumspect in their hiring practices or face the possibility of lawsuits. Many employers continue to follow the traditional "tell me about yourself" line of questioning, which makes them vulnerable to legal challenges. Local boards can educate employers about EEOC rules and case law and their applications. They may even provide classes on the subject, which employers can attend for a fee—benefiting both employers and local boards.

EEOC standards require interviewers to have detailed occupational knowledge—knowledge that local boards can supply. The reason for such detail is simple. The EEOC dictates that job applicants must be interviewed in such a way that the best qualified candidates *for the specific job posted* receive appropriate consideration. Therefore, interviewers can only ask questions related to the tasks and duties of the position and about the applicant's experiences and education only as they pertain *directly* to the job in question. To avoid any semblance of impropriety or preferential hiring practices, the interviewer must be familiar with the pertinent tasks and duties of the job. The interviewer must also understand what types of skills, temperament, and aptitude candidates need to achieve success on the job in question. Knowing how to develop interview questions directly related to the job in question is critical. The O*NET database, available through the local board, is ideal for this purpose.

Local boards can help employers navigate EEOC guidelines for job applicant interview questions.

The local board can also provide employers with the tools to screen applicants so that they need only interview the best qualified candidates. As mentioned previously, the Department of Labor's Employment and Training Administration (DOL/ETA) has commissioned the development and distribution of valid assessment batteries that private sector employers can use voluntarily as screening tools to refine their applicant screening process. Two of these assessment batteries, an *Interest Profiler* and a *Work Values Profiler*, will be widely available in version II of *OSCAR*. Additional assessment batteries for basic skills and abilities are pending release by the DOL/ETA. Workforce Center staff will then have access to free assessment batteries with direct links to detailed O*NET occupational profiles that they can market to private employers.

Strategic Area #5: Operations Management

These final ideas include ways that participation in local board operations management can benefit employers.

IDEA #15
Help employers navigate the public sector procurement system.

As your local employers seek new business opportunities, why not assist them in accessing the public sector marketplace? The public sector is not a small niche market. The State of Texas alone spends over 6 billion dollars a year on external contracts and procurements. Many small businesses, especially those which qualify as Historically Underutilized Businesses (HUB) or Disadvantaged Business Enterprises (DBE), can benefit from knowing which state and local government entities are issuing Requests for Proposals (RFP) or otherwise soliciting bids for products and services. Most government entities list their RFPs or bids through the *Federal Register* or *Texas Register*. The local board can disseminate these publications to area employers. It could also help employers apply for HUB or DBE status.

The State of Texas is a lucrative market for companies that can steer through the RFP process.

Many public sector entities require a vendor to be on the Qualified Information System Vendors (QISV) list, especially in the area of technology-related purchases. QISV-governed procurements range from building construction and repair to computer systems and technical support to medical services for the prison system. To help local employers position themselves for lucrative business opportunities, local board staff could assist them in documenting how they meet QISV requirements.

IDEA #16
Connect employers with useful community services and provide a forum for business leaders to discuss business development issues.

As a public sector stakeholder, you may be aware of a wide range of community services from which employers could benefit. By serving as the conduit for the whole panoply of workforce, financial, and infrastructure assistance, the local board can make its Workforce Centers the "One-Stop shop" where local employers seeking help will head immediately. Form a subcommittee of the local board that concerns itself primarily with regional economic development interests and has strong connections to the local chamber of commerce or regional development board. Create ties to local business incubators, industrial park managers, private investors, venture capitalists, and others. You may want such entities to co-locate or at least arrange for electronic linkages employers can use to access these other entities' products and services through the Workforce Center.

Conclusion

Under the WIA, local workforce boards that already have excellent working relationships with local employers may need to increase their services to maintain them. Local boards that lack such relationships need to provide services to build them. Meanwhile, private sector firms are exploring more ways to profit from helping employers become more proactive in addressing their own workforce development needs. View any magazine, newspaper, or television broadcast and you will see an advertisement for an Internet-based career search or electronic résumé service.

These service companies represent an emerging business practice of the New Economy, as well as the local board's "competition." The biggest challenge facing each local board is to determine how to optimize the limited public sector resources placed under its stewardship. While expanding services to employers, the local board must continue to serve job seekers—both those eligible for public assistance and those not. Hopefully, the ideas presented in this essay will be useful and will stimulate local board members and staff to generate ideas of their own for promoting employment growth, maximizing local human resources, and capitalizing fully on the potential of every job seeker through new partnerships with local employers.

Chapter 9
Motivating and Placing Hard-To-Serve Clients
Teaching Clients About the Labor Market, the Value of Work, and the Need to Take Charge of Their Own Careers

by Michal Rosenberger and Richard Froeschle

One should guard against preaching to young people success in the customary form as the main aim in life. The most important motive for work in school and in life is pleasure in work, pleasure in its result, and the knowledge of the value of the result to the community.
— Albert Einstein

During the 1992 election campaign, candidate Bill Clinton unveiled a new vision for federal welfare reform. Under the Personal Responsibility and Work Opportunities Reconciliation Act, the Temporary Assistance for Needy Families (TANF) program replaced the Aid to Families with Dependent Children program. The name change signifies a different policy approach to public assistance. Rejecting former references to "dependency," the new policy emphasizes the temporary nature of welfare payments—presenting them as a safety net for individuals in difficult situations, rather than entitlements for life. Welfare reform established time limits both on a per-episode and lifetime basis for individuals receiving most forms of public assistance. Texas law has "spells" of one, two, or three years and federal law has a five year lifetime limit. The subsequent federal employment and training legislation, the Workforce Investment Act of 1998 (WIA) and the Welfare-to-Work Block Grant, further support the goals of welfare reform by establishing job training and placement programs with a "work first" orientation. These programs aim to transition welfare recipients into employment as a first step toward economic self-sufficiency.

Work, and the ethics structure built around work, is a quintessential part of the American character. Political motivation aside, deeper, even philosophical, reasons support efforts to find suitable employment for all. As pundits from Benjamin Franklin to Studs Turkel agree, individuals gain a sense of meaning and self-worth through work. Employment generates feelings of usefulness, of dignity, of accomplishment, of pride in knowing that one has *earned* his or her way in the world. In the words of Everett C. Hughes, "a man's work is one of

the things by which he is judged and certainly one of the more significant things by which *he judges himself*... a man's work is one of the more important parts of his social identity, of his self esteem; indeed, of his fate in the one life he has to live." This sentiment applies to men and women alike. While some consider child-rearing to be the most important work of all, current public policy emphasizes paid employment. As a result, economic necessity forces many parents to work outside the home as well as in it. Presumably, the children of these parents benefit by learning the importance of work and the value of self-sufficiency. Seen in this light, a public policy that encourages, even mandates, employment would seem to be in the best interest of all members of society.

On the surface, welfare reform succeeds in helping individuals take responsibility for their economic well-being. Since 1993, the federal welfare caseload has dropped by 6.5 million people and caseloads in 29 states have fallen by at least one-half. In Texas, the number of recipients and cases dropped 54 percent between September 1995 and February 2000. Federal government agencies have demonstrated a commitment to welfare reform by hiring nearly 12,000 welfare recipients—exceeding the goal of 10,000 they set for themselves two years ago. "You can see the evidence of progress in communities across our country, in hard-pressed neighborhoods where bus drivers who used to pass by empty stations now report their buses are filled with people on their way to work," President Clinton said in a recent speech.

Despite these gains and the robust national and Texas economies, job training programs continue to have large numbers of clients. The nation's extremely low unemployment rate would suggest that, for those who *want* to work, there *are* jobs. But such a facile analysis disregards the distinction between desire and ability. Now that the easiest-to-place workers have found employment, those with minimal education, few skills, and a poor work history remain on or return to the welfare rolls. As those who can work move into private employment, increasingly the clients sitting in front of case managers exhibit multiple barriers to employment. Career counselors and advisors find themselves expending a great deal of energy, creativity, and funding resources to help these harder-to-serve adults overcome their multiple challenges so they, too, can join the workforce. As a result, even though the caseload size is falling, the resources required to transition each recipient into self-sufficiency is rising.

Now that the easiest-to-place clients have jobs, local boards must place those with few skills, little education, and poor work histories.

In Texas, welfare recipients cannot be classified as one homogenous group, but rather as a spectrum representing varying levels of need. At one end of the continuum, recipients require relatively little assistance; they have had recent employment, a good work history, and up-to-date skills. On the opposite end, recipients demand a great deal of energy from caseworkers. These long-term welfare recipients may be single parents, have a disability, and/or lack skills and training. They require more personal attention, more extensive remediation and training, as well as comprehensive support systems to overcome their own set of personal, psychological, financial, physical, social, and educational barriers that block them from self-sufficiency.

Different workforce development models have sought to meet the varying needs of welfare recipients.

Different workforce development models have historically addressed this wide variance in the needs of welfare recipients. The "maximum focus-minimum impact" model seeks to provide a modicum of services to as many resident customers as possible. In contrast, the "minimum focus-maximum impact" model favors offering more extensive services to a smaller number of clients with the belief that the only way to move a client to self-sufficiency is to address multiple client barriers simultaneously. Philosophically, each approach offers strengths and weaknesses and only a local workforce board, based on available resources and the demographics of their local population, can determine which model best serves their area. For example, the minimum focus-maximum impact model offers an extensive mix of support services and job training that best suit persons with multiple barriers to employment. The drawback, of course, is that fewer people receive services since they cost much more than the minimum impact model. The maximum focus model allows more persons to receive services, but the mix of services may not suffice to overcome all the barriers to employment a resident customer faces. The ideal system offers an effective mix of both models.

Previous federal workforce legislation focused on specific subpopulations and generally required service providers to target services only to these groups. Participant eligibility under the Job Training Partnership Act, for example, limited participants to those persons defined as economically disadvantaged. By specifying customer groups in this way, the legislation essentially dictated the service model.

The WIA creates a new model based on "the universal customer," mirroring Texas State legislation (House Bill 1863 of 1995). Since a universal customer could include employers or almost anyone wanting services or assistance in their personal career search, local workforce boards have more liberty in designing a local service model. (See Chapter 8: *The Other Customer.*) This increased flexibility presents new challenges. It requires workforce development

professionals to be extremely creative as they budget funds for education and training, job counseling, and support services—such as transportation and child care—to address the needs of such diverse groups as veterans, displaced workers, welfare clients, food stamp recipients, and those in need of vocational rehabilitation. Thus, workforce boards now have an opportunity to implement a service model consistent with their own local vision, mission, and population mix.

The Challenge

As mentioned previously, even though caseloads have declined, many of the persons walking through the door of a Workforce Center these days are among those hardest-to-place. These individuals may have any or all of the following characteristics:

- multiple dependents requiring child care or after-school care
- dependents who have special needs
- 36 months or more of relatively continuous unemployment
- no work history
- no high school diploma or equivalency
- a history of medical problems
- no permanent residence
- a history of substance abuse

Obviously, serving those with the greatest barriers requires more resources than serving those more work-ready. In addition, as evidenced by declining real wages for persons with high school education only or below, the labor market has an ever-decreasing capacity to employ and promote low skill workers. Given the breadth of barriers to self-sufficient employment faced by some needy individuals, the funds available to support their transition from welfare-to-work do not adequately meet the demand—despite increasing funding and decreasing caseloads in most communities.

Today's global market demands education and skills that many welfare recipients lack.

Americans who lack basic education, work experience, and at least rudimentary work skills face great obstacles in the emerging global economy wherein U.S. workers compete for jobs not only with workers in other communities or states, but in other countries as well. Technological advances in transportation and communications have reduced the importance of location. As a result, firms market their goods and services—and recruit workers—worldwide. (See Chapter 2: *The Impact of Globalization.*) Currently, the supply of specialized skills from highly-educated workers falls critically short of international demand. The supply of world-wide low-skilled

workers willing to work for far less than the U.S. minimum wage, however, remains abundant. Across the country, production manufacturing jobs, which once provided a middle-class living to millions of relatively low-skilled U.S. workers, have moved overseas, leaving displaced workers in their wake. Unfortunately, most clients leaving the welfare rolls likely possess few specialized work skills and thus find themselves competing with more experienced workers for lower paying, lower skilled jobs in a tight labor market. The vast majority of clients find local, entry-level, service jobs their only options.

It is easy to see why those with multiple barriers to employment sometimes become too discouraged to seek work. They may find it hard to cope psychologically with the prospect of rejection if their prior job search efforts rarely succeeded. They may be so consumed with their own medical needs or the needs of their dependents that they cannot find the time or energy to search for work—much less work a fixed schedule if they do find a job. They may find it pointless to work if their qualifications suit them only for low-wage, part-time, or seasonal work—where their earnings disqualify them for many forms of public assistance but do not meet their self-sufficiency needs.

This essay seeks to support and inspire workforce development staff across the state.

How can we build capacity for success in today's workforce for these most difficult-to-place individuals who require intensive support services? How can we motivate discouraged job seekers to obtain appropriate education and training? What can we do to help them develop a positive attitude toward job prospects and learning? This essay seeks to support, inspire, and inform those who work diligently to connect job seekers with employers. It suggests ways to help motivate and place hard-to-serve clients. Finally, it celebrates the creative individuals and programs that address these diverse needs every day and help clients overcome barriers to employment and economic self-sufficiency.

Overcoming Challenges from the Economy

Although the American economy is booming, job growth tends to cluster at the top and bottom of the earnings spectrum, mostly in the service and trade sectors of the economy. Projections from the Texas Workforce Commission, for example, tell us Customer Service Representatives and Systems Analysts rank among the fastest growing occupations through the year 2006. While Systems Analysts receive high wages, the field requires extensive training. Cashiers and Retail Salespersons, on the other hand, require little education or training and offer low wages. In today's economy, it is axiomatic that high-wage jobs require high-skilled workers.

To be a highly skilled worker today, one needs more than a high school diploma. Young, unskilled, entry-level high school graduates find themselves at a competitive disadvantage because of the surplus of college-educated persons and experienced, but underemployed, adult workers who have been displaced by new technologies. Potential workers also face increasing numbers of immigrants who have come to America specifically looking for work—and often possess the skills and expertise that employers demand.

The good news is there *will* be high-skill and high-wage jobs in the future. Retiring "baby-boomers" will leave vacancies that qualified graduates of the education and training pipeline can fill. Technology generates a tremendous demand for Programmers, Computer Engineers, Marketers, and those interested in research and development. Still, these replacement opportunities, as well as the newly-created jobs, will be available only to those who put forth the effort to get the required training and who "pay their dues" by applying themselves conscientiously to the entry-level jobs they hold early in their careers.

Everybody knows that education is important. But like physical fitness and trust, it cannot be bestowed. It must be earned. We can speak in generic terms about the importance of education but motivating a resident customer into action requires something more. The case manager can promote certain values and beliefs to help motivate an individual as she or he acquires education and training or to enable the client to make the most of even entry-level employment. We call these reminders (listed on the following page) the "Keys to Career Success."

Keys to Career Success

Under the "work first" model promoted by welfare reform legislation, many resident customers, especially those with a basic level of education or simple job skills, will find themselves referred to entry-level jobs. In working with these clients, case managers can impart several lessons or reminders to encourage their persistence in the world of work.

All work is valuable. Even so-called "menial" jobs contribute to the greater economy.

Most importantly, case managers can remind job seekers of the value of all work. Every job (even a low-skill, minimum wage, or part-time job) contributes to the flow of goods and services in the economy. All work performed has value to the employer and to consumers. Entry-level workers might not pursue a career track within a specific firm but they can see their value to the employer reflected in recommendations and references provided to fellow employers and maybe in wage increases and opportunities for additional skills training.

Keys to Career Success

1. Choose your career by matching your interests and abilities with jobs that pay well and are in demand.
2. Do your best at work, even if it's not the full time, stable job you want. Who knows where it will lead?
4. Get all the formal education you can. Think of entry-level work as a way to pay for school, not a substitute for it.
3. Treat each part-time, temporary, low-skill, and/or low-wage job as an opportunity to:
   - earn money for tuition and other educational expenses;
   - learn and demonstrate good work habits;
   - develop a strong work history;
   - create healthy work relationships (and future references for other jobs);
   - learn what type of work you really like to do;
   - show off your talents and character to people who might be able to help your career later.
5. Earn a degree in a field that will prepare you for the career you want.
6. Rely on facts to decide which school to attend and what field to pursue. Researching how former students fared in the work world is particularly helpful.
7. When you attend classes, learn the information needed to graduate AND learn how to learn more effectively. Ask teachers and fellow students the best ways to study and think—you'll need it in the workplace!
8. Even if you're not in school, learn how to learn because you'll need to increase skills over time if you want to stay employable.
9. Mix vocational training with more traditional academics to increase your skills.
10. Always look for new ways to learn on the job and advance in your career. Keep all your options open.
11. When you leave a job, leave on good terms. Someday you might need a reference from a former boss.
12. Avoid substance and alcohol abuse, especially since many companies do drug tests.
13. Avoid criminal activity at all costs. A felony arrest or indictment or a serious misdemeanor conviction eliminates some occupational options.
14. While on the job, remember to:
    - Avoid "job jumping;" employers don't hire people who always quit.
    - Be alert to entrepreneurial opportunities—you might enjoy being your own boss!
    - Ask questions of coworkers and supervisors to learn about the organization and other career opportunities that may be close at hand.
    - Prepare yourself for opportunity and work hard; many define "luck" as 10% inspiration and 90% perspiration.

As ever, the "prizes" go to those who work hardest and smartest. People rarely attain the best jobs by accident and blind luck. Persons most likely to achieve employment success will be those who understand the keys to success on the previous page. We suggest you post the list in the work area or in common areas at your Workforce Center or placement office for job seekers and staff to see.

As the keys to success illustrate, any job can benefit a person who considers it a learning opportunity and a step toward building a long-term career goal. Each job provides subtle training in "learning how to learn." Conscientious employees develop sound work histories that keep their options open for career advancement. By working well with others and demonstrating good work habits, entry-level employees create relationships that may yield recommendations and positive references for future employers. Every employee should learn continually from co-workers and supervisors about the organization and other career opportunities that may be close at hand. Even if the current position does not entirely match the employee's personal values and work preferences, it may lead to a job that is a better fit.

Motivating Clients

Of course, keys to career success have value only for those who apply them. Unless the job seeker is motivated, even the best efforts by the most competent placement counselor will fail. Resident customers may lack motivation for different reasons. A small but well-publicized minority of unemployed persons, for instance, has learned to be "creatively incompetent." Using the system to "just get by," such people do only the minimum amount of work required to continue in public assistance programs. Others may feel discouraged after past failures. How do we help job seekers to have a positive attitude toward job prospects and to put forth the effort to learn as they work? While an attitude adjustment may be all that some discouraged individuals need, for most the solution depends on the reasons behind the lack of motivation.

Some clients appear unmotivated because they lack direction and focus, have poor social skills, and/or possess ineffective personal management skills. For such individuals, a job coach may need to provide skills and direction through support groups, mentoring, and short-term training. Time management—essential in most work settings—may be particularly difficult for persons who have been setting their own schedule for years. Overcoming a resident customer's attendance and tardiness problems may require diligence on the part of the job coach and, perhaps, some leniency and understanding on the part of the employer who appreciates the special problems of individuals transitioning from welfare to work.

Dependent care poses another barrier to motivation. Single parenting, especially for teens, makes it even more difficult to leave the welfare rolls within recently-imposed welfare reform time limits, regardless of their motivation level. Teen parents often require additional education and training (including a high school diploma), as well as day care and health care for both mother and child. Congress specifically addressed the importance of reducing out-of-wedlock births by providing bonus funds for states with reduced birth rates. Teen mothers, however, are far from the only ones who face personal barriers to employment—barriers often as entrenched as they are complex. In addition to child care issues, demands of other family members (elder parent care, for example) may interfere with job success.

Clients face a variety of barriers to employment, such as discouragement, lack of direction, and dependent care needs.

Some clients face social or institutional challenges to success. For many, discrimination—both subtle and blatant—remains intact in some work environments, creating a formidable obstacle for career advancement. It may appear in the informal work culture that discrimination in selection and recruitment practices, task assignment, performance evaluation, and/or promotion and salary decisions poses an invisible foe for workers to overcome. Same-sex, same-race mentors have proven effective in providing guidance, encouragement, and advocacy to those seeking to overcome cultural and sexual biases. Job coaches who provide a trustworthy mentor with whom the job seeker can identify will contribute significantly to success for those who face such difficulties.

Overcoming Education and Training Barriers

Educating and motivating the hardest-to-serve resident customer takes more than an enthusiastic and knowledgeable caseworker. From the caseworker at intake to the teacher in a classroom training environment, this group requires the kind of continuous assistance and support that only a fully integrated local education and workforce development system can provide.

Historically, most classroom education and training for workforce development participants has been delivered through public community and technical colleges (CTCs) and proprietary schools. Each generally works closely with its workforce development board and employers in the community to meet specific labor market needs. Creating a training program to meet industry needs, however, is only part of the story.

In addition to offering curricula that reflect local employer hiring requirements, education and training providers must be willing to alter educational formats and delivery systems as well. Non-traditional students, such as workforce development clients, tend to possess diverse learning styles and many do not learn best with traditional lecture methods. The hardest-to-serve from the welfare ranks may fare best with hands-on experiences. Others may learn more efficiently through self-paced computer simulations, such as those delivered via the Internet or CD-ROM instructional packages. To deal effectively with these resident customers, any prescribed training program must adapt to address the often conflicting demands of legal requirements, as well as clients' expectations, schedules, and/or career plans. Providers, for instance, need to compress, expand, or otherwise modify program time frames to meet the needs of working clients.

Many of the hardest-to-serve clients learn best by gaining hands-on experience.

The CTCs have done an excellent job recently of adapting courses to the open entry/open exit format necessary to deal with a continual stream of workforce training customers. They have also demonstrated increased flexibility in offering multiple exit points on the way to job readiness and an enhanced ability for students to create their own "majors" by combining a customized series of courses. Many such programs last less than a semester and cater to job seekers interested more in skill acquisition than in academic credentials. Assessments can ensure that a student's abilities and knowledge match job requirements. Unless the student wishes to pursue higher academics, it makes little sense for them to take a course to acquire skills or knowledge they already possess. All of these strategies are ideal for workforce participants and the case manager should be aware of their existence or the potential to create such options on behalf of their resident customers.

Teaching "Soft" Skills

Research shows that employers seek workers that possess both technical skills and "soft" skills or "workplace basics." Basic skills, such as teamwork, study skills, conflict resolution, and problem-solving, are essential for almost everyone in today's workplace. Given the choice, many employers opt for workers with excellent teamwork and communication skills, knowing they can teach the technical skills as they apply to the employer's workplace. Small and mid-sized employers especially depend on employees to accomplish multiple backroom or shop floor tasks while being customer-oriented at the same time. Reorganized production requires a greater range of skills at each level of the organization than ever before.

In many cases, the lack of these workplace basics precludes a person from being hired. Prior to the job interview, individuals in transition from welfare dependency to work must be able to demonstrate "corporate literacy"—how to act, speak, and carry themselves appropriately in the business world. Any human resources officer, for example, has a collection of horror stories of ill-kempt, poorly prepared applicants who smoked or chewed gum during interviews. Workers must replace informal dialects and slang with the standard English grammar suitable for the workplace, especially for customer-service jobs. Tellingly, it was the business community that insisted on including a speech course among the requirements for high school graduation in Texas. This requirement aims to improve students' articulation skills so they can—at the very least—interview well.

Special populations such as the hardest-to-serve clients may require both personal support, soft skills, and academic basics before they can complete the remedial, writing, reading, and technology training required for the workplace. Before they can succeed in an academic environment, these non-traditional students must have support to overcome personal problems, such as time and stress management and, possibly, math or test anxiety.

Thriving on the Job

Like workplace basics, the match between worker and technology has become a hidden factor in employee/employer success. Workers might be trained on state-of-the-art technology and then find outdated equipment on the job (or, more likely, just the opposite!). Sometimes, workers find a hodgepodge of outmoded and modern equipment in the workplace. Employers might require technical expertise from persons trained in the business side of the industry or business expertise from the technically-trained. To better serve their clients, particularly those hardest-to-place, many workforce boards are initiating employer services models that include the brokering of state-of-the-art technology, employer production processes, and workforce skills.

Most of all, employers need employees who can act, speak, and carry themselves appropriately in the business world.

Even when specially-designed training programs appear to prepare clients successfully for the workplace, program outcomes must be evaluated regularly. The need for outcomes accountability has two major drivers. First and most important are the real costs of worker turnover to both employer and worker associated with hiring an ill-prepared worker. Although adults exit welfare programs each year, many of them leave their jobs and return to welfare just as quickly. For this reason, finding stabilizing employment and earnings for these

individuals and their families is as important as initial placement on the job rolls. Researchers found that, all other things being equal, an individual who earns around the poverty threshold of $3,000 per quarter has a 61 percent chance of staying employed and off welfare—more than double the chance of someone who earns only $1,000 per quarter (*Center on Urban Poverty and Social Change Briefing Report #9901*, p.3).

The second factor driving the need for outcomes accountability lies in increased local flexibility, with required achievement of the desired outcomes. Thus the ability to document results increases in importance. Program administrators, for example, must demonstrate that they do more than simply send clients to adult basic education. They must be able to determine whether residents enrolled in the remedial program, completed it, returned to job skills training, completed that training, and found stable employment. In other words, they need to track students' progress. Such a tracking or follow-up system would allow them to determine to what extent they have linked client training and workforce needs and where flaws should be corrected. Too frequently, even when a participant follow-up system exists, the results seldom filter down to the case workers who need this information to guide the decisions of future program entrants. In Texas, this type of consumer-oriented performance information is directly available on the Internet at the *DECIDE* website (*http://decide.soicc.state.tx.us*) developed by Career Development Resources, formerly the Texas SOICC. (See Chapter 10: *Closing the Loop* for more on follow-up research.)

Local boards must evaluate program outcomes regularly. This monitoring helps decrease costs of turnover and reduces returns to welfare.

Partners for Success

Together, state and local agencies, as well as community-based and faith-based organizations, can help meet these complex needs of the welfare client population. We have found several examples of organizations, industries, and Workforce Centers that have gone above and beyond the traditional support structure to create added capacity for helping the hardest-to-serve resident customers succeed. Such collaborations include job training, educational assistance, community child care, support services, mentoring, referrals, and financial assistance to needy individuals and families. They provide cognitive, social, personal, and program support that the hardest-to-serve need if they are to become self-sufficient, contributing members of the workforce and our future economy.

In one powerful example of community collaboration, Goodwill Industries, a leading provider of job training and placement services for the disadvantaged, enlisted support from Mervyn's—the clothing retailer—to help women move toward self-sufficiency. Goodwill identified three major obstacles to women getting off public assistance and going to work. These barriers are (1) lack of transportation, (2) lack of child care, and (3) lack of work-appropriate clothing. In response, Mervyn's created the California Community Closet project. Mervyn's California department stores hit the road in a custom-built Community Closet—a 53-foot truck transformed into a full-fixtures mobile store.

The Community Closet travels to selected cities across the nation, giving away brand-new clothing to over a thousand women thus far. Each recipient they dress, head-to-toe, in brand-new, top-of-the-line interview- and work-appropriate attire. In some cases, meetings with hair stylists and make-up consultants, "before and after" photographs, a fashion show atmosphere, and "best dressed" contests add to the excitement of the program. "For Mervyn's, this is much more than simply clothing women," said Bart Butzer, President of Mervyn's. "We hope that by helping these women dress for success we, in turn, boost their confidence and self-esteem as they prepare for the challenges of employment." While there has been no empirical follow-up of women who participated in the Mervyns project, it is this sort of extraordinary support which potentially contributes greatly to the likelihood of post-program success.

In some areas, local employers and Workforce Centers have formed alliances to help hard-to-serve job seekers succeed.

Conclusion

It is axiomatic that the hardest-to-serve person can be called that for a reason. Those who already possess work experience and job skills are easier to help and many can get jobs on their own. Successfully helping the hardest-to-serve resident customers, on the other hand, often requires extraordinary effort, extra levels of commitment, and the highest degree of collaboration.

The good news is that even hard-to-place workers may have skills, positive attitudes, and yet-unrealized internal fortitude that will appeal to employers. When employers say, *"Give me a twenty-six year old with three prior jobs,"* they are actually voicing their desire to hire someone who demonstrates good work habits and a capacity to learn new skills and competencies. With support, training, diligence, and persistence, even the most difficult-to-place client can be that person—and succeed and find satisfaction as an important part of the American economy.

To overcome multiple barriers to employment, welfare program participants ultimately must become more self-motivated. Perhaps, in closing, the use of the word MOTIVATE as an acronym will provide an appropriate lesson for resident customer and case manager alike. Often the simple messages, like the cross-stitched saying, "There's No Place Like Home," hung on a living room wall, remind us of what is most important. Maybe the following message can help capture some of the important aspects of personal responsibility and self-reliance in a way that even the most discouraged job seekers can remember.

M **Manage your own work life**
You are responsible for managing your own career. Understand how current earnings, retirement plans and health benefits all contribute to your well-being and your family's economic future. Keep your résumé current and be prepared to make career changes to improve your long-term financial security.

O **Options and Opportunity**
Opportunity knocks for those who are prepared to answer. Explore your options and keep as many open as possible. As the Chinese say, behind every challenge is an opportunity for those willing to look.

T **Training never ends**
Lifelong learning means acquiring new skills and knowledge as conditions change. Lifelong learning offers your best protection against becoming an obsolete worker.

I **International mind set**
The U.S.A. is only part of the world economy. Learn world geography, and recognize and appreciate language and cultural barriers. Know that you compete for work in a global economy.

V **There is Value in all work**
Demonstrate respect for yourself, your employer, your co-workers, and your customers by giving your best at every job.

A **Focus on Achievement**
Strive to improve yourself and achieve excellence in all you do. Celebrate even the smallest achievements. Allow others to help you by making your goals clear to family and friends.

T **Technology**
Computer literacy has become a basic workplace skill. Make a commitment to stay current in the areas you intend to pursue.

E **Economics**
Learn how the economy works and how current events affect the labor market. Understanding how economic changes affect you, your family, and your life's work can be very empowering.

Chapter 10
Closing the Loop:
Using Follow-Up Data for Program Accountability

The Benefits of Follow-Up Data in Program Planning and Evaluation

By Marc Anderberg

In every affair, consider what precedes and what follows, and then undertake it.
— Epictetus

"**Accountability for Results!**" Since the early 1990s, publicly-funded employment and training programs have marched under that banner. The slogan expresses concisely the new paradigm in program evaluation. In the past, program performance ratings depended largely on reputation (earned or self-proclaimed), size, prestige, or resource consumption. Today, experts are more likely to judge programs on the value they add, i.e., by the results achieved by their former resident customers. They use documented evidence of former students' post-exit labor market achievements to measure program efficacy. This new approach represents a shift from reliance on anecdotal information and marketing hyperbole to hard empirical evidence—a shift from input, process, and output measures to outcomes measures.

Focusing on students' post-exit achievements offers significant advantages over the previous approach. From a theoretical perspective, outcomes data undoubtedly are essential for holding programs truly accountable in terms of return on the investment of taxpayer dollars. More importantly, though, they "close the loop," serving as the feedback necessary in a rational, data-driven cycle of planning and evaluation for continuous program improvement. Despite their great significance, however, outcomes-based performance data must be used prudently.

Outcomes data hold programs accountable and foster continuous program improvements.

Several chapters in *Connecting the Dots* allude to the indispensable role follow-up data play both in the strategic planning process and the implementation of a continuous program improvement initiative. Indeed, the collection, interpretation, and application of follow-up data, both for planning

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and performance accountability have become so critical under both the federal Carl Perkins III reauthorization and the Workforce Investment Act of 1998 (WIA) that follow-up research warrants a discussion of its own.

This essay addresses issues associated with using automated follow-up as the foundation of a system of continuous program improvement. It introduces concepts fundamental in creating a sound follow-up system to identify the results achieved by former education and workforce development program participants. It also emphasizes the critical role of the follow-up feedback loop in improving strategic planning—not just for compliance documentation, but to respond consistently to local labor market conditions; establish valid, reasonable, and actionable performance standards integral to public policy concerns; and to improve front-line program performance.

What Is Follow-Up?

"Follow-up" refers to the process of gathering data to determine what happened to individuals after they received a service, treatment, or intervention. Although there are subtle differences among the terms "service," "treatment," and "intervention," follow-up research seeks to identify the effects of all three.

Why Conduct Follow-Up?

Primarily, follow-up provides timely, valid, and reliable data that enable researchers to describe outcomes accurately as an essential step in a continuous cycle of planning and evaluation to improve services. It helps planners answer the following questions: What works effectively, for whom, and under what circumstances? What services need improvement? Which should be discontinued? The same data that drive program planning and evaluation also may help in performance reporting, in addressing accountability issues, and in enabling prospective customers to make informed decisions about their education and training options.

How Does Follow-Up Differ from Other Kinds of Research?

Follow-up studies represent a specific method for determining participant or customer outcomes. While other research methods, including tracking and case studies, similarly seek to collect and process information regarding the results of service intervention, the role follow-up plays is unique.

1. Tracking *versus* Follow-Up

People often use the terms "follow-up" and "tracking" interchangeably. They are, in fact, two very different endeavors. Tracking means studying the activities of participants *during* the service period. Follow-up refers to studies of former participants *after* services have been completed or terminated. Researchers use tracking to monitor progress from one service level or program activity to another and/or to ensure that service delivery complies with procedural guidelines. They use follow-up, on the other hand, to document post-program results. In essence, tracking is process-oriented while follow-up is outcomes-oriented.

The distinction between tracking and follow-up has practical consequences. The data collection methods differ markedly, for instance, as do the entities that perform the research. Service providers often perform tracking in-house because their own management information systems (MIS) contain all the data elements needed. In contrast, follow-up activities require the services of an outside agency that can facilitate linkages between data elements in the service provider's MIS and outcomes information contained in external databases.

2. Case Study *versus* Follow-Up

Follow-up also differs greatly from case studies. A "case study" usually focuses on a specific subject. It helps determine what additional services that *individual* should receive. Occasionally, researchers conduct case studies to become acquainted with a program, its services, and the milieu in which it operates. Such case studies are exploratory insofar as they serve primarily to generate hypotheses worthy of testing through additional research. Researchers conduct follow-up studies, on the other hand, on exit cohort *groups* to determine program effectiveness and to facilitate the planning and delivery of services to future cohorts of program participants. Not surprisingly, data privacy laws apply differently to case studies, which help determine interventions for specific individuals, and follow-up studies, which try to improve the delivery of services to all eligible participants.

Follow-Up *versus* Other Studies	
Tracking • During service period • Documents progress, ensures compliance	**Follow-Up** • After service period • Documents results
Case Study • One subject • Determines if further research is warranted	**Follow-Up** • A group of subjects with shared characteristic(s) • Determines program effectiveness

Who Benefits from "Closing the Loop" with Follow-Up?

Monitoring and evaluating program outcomes is as important to workforce development experts as knowing the external economic challenges posed to program operation and effective worker transition. In an information-driven system, the outcomes feedback component provides input on a number of fronts, directly benefiting every stakeholder in the educational and workforce development system.

1. Service Providers

Follow-up information helps providers explain the benefits of the services they deliver. Schools and training program operators use follow-up information to identify which program offerings had successful labor market and continuing education outcomes. Where programs fall below standards, operators may consider either deactivating the program or reevaluating the curriculum against employer-based hiring requirements. Then, and only then, can the process of real and continuous program improvement begin.

2. Eligible Customers

Follow-up information helps eligible customers, students, and others make more informed choices about whether to enroll in a specific education or training program. By reviewing the experiences of previous cohorts passing through an institution and the labor market results they achieved, prospective customers can better determine if they themselves want a service and could benefit from it. They can also decide which provider to select based on reasonable expectations inferred from service providers' performance histories. Organized into training institution report cards and external occupational characteristics descriptions, follow-up data likely will increase the number of good matches between the individual, the skills in demand in local labor markets, and the recommended training.

3. Public Oversight Entities

State and local agencies can rely on follow-up information to monitor and evaluate direct recipients of workforce development dollars and their subcontractors. Reviewing customer outcomes from various training entities during the funding allocation process enables agencies to provide additional funds to those institutions with the more successful track records. Texas Workforce Commission staff can help local workforce development board staffs combine outcomes data with information about the external environment, fostering a better-informed leadership of the education and workforce development system.

4. Stewards of Public Funds

Outcomes data on service providers and specific programs may enable local decision-makers, state administrators, legislators, advisory council members, etc., to make more rational, data-driven decisions when delivering services or procuring services on behalf of those eligible to participate in publicly-funded programs.

5. Community as a Whole

Outcomes data help private citizens and third parties, such as non-profit public interest research groups, community based organizations, academic researchers, and commercial enterprises, to determine their policy stances and render advice to other stakeholders about programs and service providers. Ultimately, follow-up information benefits all taxpayers, because they can use data to hold service providers and other entities accountable for results.

As this list of beneficiaries indicates, program follow-up information is much more than random pieces of data stored in a computer. The success of workforce consolidation depends on the ability to provide strategic guidance through quality, meaningful information. The follow-up data are already available. The question is, will they be used to drive individual and program decision-making?

What Exactly Are Outcomes Measures?

In recent years, demands for publicly-funded program accountability have grown. In the past, service providers "accounted" for their activities to stakeholders by showing that they spent funds legally and followed procedural guidelines in the delivery of services. Today, providers must show that programs—particularly ones funded with tax dollars—achieve the desired and intended (or promised) results or outcomes. Understanding follow-up activities in the context of this new type of program accountability requires classifying and drawing distinctions carefully among the various types of performance measures used in follow-up.

Inputs

"Input" measures rely on characteristics of subjects before or at the time they enter a program. Depending on their use, inputs can measure equity issues, permit the calculation of outcome measures, or simply quantify program resources. Researchers commonly use subject inputs to address issues related to equity of access, for instance. They help determine whether providers serve individuals with a particular characteristic or attribute in roughly the same proportion as they appear in the general population or eligible targeted subpopulations.

Input variables also may comprise the "starting ingredients" which form baselines against which researchers calculate gains. For example, researchers need to measure participants' pre-enrollment earnings in order to compute "earnings gains" after they exit WIA programs. They must know the prior educational attainment of Adult Education students if they plan to calculate their "learning gains" subsequent to program exit. Similarly, they need participants' pre-service status to measure "decreased welfare dependency" as a desired result of employment and training programs. By establishing a baseline, inputs help reveal the value added by a service provider or the returns on investment in a program.

Finally, researchers may consider the resources at the disposal of service providers as input measures. Availability of resources relative to the number of eligible participants significantly affects the services rendered. Inadequate resources decrease quality of service, while abundant resources, appropriately administered, usually benefit participants. Follow-up results can demonstrate the validity of this assumption.

Processes

"Process" measures help describe the services provided and the methods of delivery used. To some extent in the past, analysts took process measures as empirical indicators of service quality. One classic example of this phenomena is "per student/per participant" expenditures. Others include the "student-teacher ratio" in education and training circles; "caseload" in workforce development, human services, corrections, parole, and welfare programs; and "patient-load" in the health care arena. According to the theory, the more caregivers/instructors per participant, the better the service.

Outputs

"Output" measures assess the attributes or characteristics of subjects at the point when they exit a program or services terminate. Output measures include "graduation rates" or "learning gains" (in education and training), "positive terminations" (in workforce development programs), or various conditional attributes of release (in corrections and health care).

Outcomes or Results

Both outcome measures and results identify what happened to subjects after they received services. They represent the "impact," "payoffs," or "returns on investment" of service delivery. Generally speaking, researchers use the term "outcomes" when the subject takes some responsibility for and plays an active role in the endeavor. "Results," on the other hand, connotes more passivity. Strictly speaking, one would ask, "What *outcome* did you achieve by following the diet your doctor prescribed?," as opposed to, "What were the *results* of your liposuction?" In the case of workforce program participants, post-exit earnings gains is an outcome, while receiving food stamps is a result.

The line between outcomes and outputs can be difficult to discern in some circumstances.

Follow-up studies usually focus on outcomes but the fine line dividing outputs from outcomes is not always clear. It blurs when a gap exists between service delivery and the attainment of intended outcomes. Examples include passing a licensure examination before becoming eligible for employment in a regulated occupation, demonstrating competencies at a level of proficiency required by an officially recognized skill standard, or attaining a Certificate of Initial Mastery. Licensure, competency assessment, and skills certification may depend on parties other than the ones which provided services, yet they are not outcomes *per se*, in the sense that individuals receiving such post-program credentials use them as their entrée into the labor market, not as ends in themselves.

The simplest way to handle such situations is to determine who has easiest access to the data. If parties other than the service provider award credentials, for instance, a third party follow-up entity would consider the awards as outcomes. If, on the other hand, the service provider awards the credentials in-house, providers should treat them as outputs, which they can measure themselves.

Recently, two pieces of federal legislation, the Workforce Investment Act and the Carl Perkins III reauthorization, have brought performance measurement systems and outcomes-based follow-up to the forefront. The text box that follows describes the follow-up structure for these programs in detail.

Who Conducts Follow-Up?

There are as many entities who conduct follow-up studies as there are reasons for the research. A service provider might conduct follow-up on its own program participants or an impartial third party may take the lead. In fact, the outcomes achieved by a single program's former participants may be studied simultaneously by several parties for quite diverse reasons, including program improvement, provider eligibility, public funding, and so on.

Changing Performance Measures

Recent federal legislation has encouraged the use of post-exit outcomes to measure program performance.

The Workforce Investment Act of 1998

Traditionally, federal employment and training legislation has placed a premium on documenting program results. The Workforce Investment Act of 1998 (WIA), however, introduced a new implementation structure that puts an even greater emphasis on the collection of customer outcomes data. The WIA mandates a system characterized by significant levels of local control for program operations and implementation. In return for the greater local flexibility, Congress introduced more stringent requirements for demonstrating local program performance. Critically, it specified that the states use automated record linkages to Unemployment Insurance (UI) wage records [Section 136 (f) (2)] to determine the post-program employment status, earning, and retention patterns of former customers. In other words, it calls for outcomes data.

The WIA also requires follow-up data on training providers. Under the new legislation, eligible training providers must meet performance eligibility requirements before they can continue to offer fee-based training services under the WIA. Section 134 (c)(4)(F) mandates a *consumer reporting system*, which not only lists the training providers eligible to offer services but posts cost information, as well as performance data on their students' outcomes. Thus, the new delivery system's core contains a feedback loop that allows only those training providers whose students achieve post-program "success" to continue to offer training services. Under the WIA, continuous program improvement takes place not only in the strategic planning process but at the vendor certification level as well.

Technical Education

Vocational education has always required performance measures reporting. Historically, it demanded primarily *output* measures, such as the number of students completing vocational programs. The reauthorized Carl Perkins III legislation added a new dimension by introducing specific language regarding a more rigorous, *outcomes*-based performance measurement system. The legislation compels the U.S. Office of Vocational and Adult Education (OVAE), in partnership with the States, to "assess the effectiveness of the State in achieving statewide progress in vocational and technical education and to optimize the return on investment of Federal funds in vocational and technical education activities." These new measures focus primarily on student *achievement*, as opposed to student *progress*. This change represents the first serious requirement for documenting multiple student outcomes as part of technical education program evaluation.

OVAE explains these outcomes measures in detail. Through consultation with the States and other stakeholder groups, OVAE established a "core indicator framework" which identifies four measures or indicators that all states must report—a change from previous policy which allowed states to pick their own performance measures. With some exceptions, states must report data on each of these measures, and their related subindicators, for those persons identified as "vocational concentrators"—i.e., individuals who receive a "threshold level" or sequence of vocational coursework.

OVAE's Four Core Indicators

1. **Student Attainment**
   subindicators: secondary and postsecondary academic and vocational/technical skill attainment
2. **Credential Attainment**
   subindicators: secondary completion, a proficiency credential, and postsecondary degree
3. **Placement and Retention**
   subindicators: both secondary and postsecondary levels
4. **Participation in and Completion of Non-Traditional Programs**
   subindicators: both secondary and postsecondary levels

Who Are the Subjects of Follow-Up?

The name for a given follow-up subject depends on the service delivery program in question. Workforce development staff call recipients of program services "participants" or "customers," for example. Those who receive public assistance may be called "customers" or "clients," as are individuals who purchase the products and services of business and industry. Education and training providers dub recipients of their services "enrollees" or "students." Sometimes they preface "students" with descriptive adjectives referring to their age (e.g., traditional, non-traditional, or adult); or the type of program they attended (e.g., continuing ed., vocational, academic, Tech Prep). The health care industry and some human service organizations refer to service recipients as "patients." The corrections industry uses the terms "offenders," "inmates," or "convicts." Recent initiatives to coordinate the delivery of a wide variety of employment and training services through Workforce Centers identify persons seeking these services as "customers."

The names for study subjects may also vary depending on the type of research conducted. In the case of follow-up studies, names may focus on the results experienced or the outcomes achieved by individuals or groups that share some characteristic. When the common attribute of follow-up study subjects is the service they received, they are known collectively as a "cohort" or "follow-up cohort." Researchers may define each cohort according to the time when its members began receiving services (an "incoming cohort," as in the "incoming freshmen of 1999") or when they ceased receiving the service (an "exit cohort," as in the "JTPA Title III terminees from Program Year 1992-93").

When the common attribute of group members is antecedent to or independent of the service received, researchers may call them "subpopulations." For example, follow-up studies may compare outcomes achieved by persons of different race, gender, economic status ("economically disadvantaged"), degree of language comprehension (those who speak English as a Second Language—ESL), family or marital status ("displaced homemakers" or "single, teenaged mothers"), or prior educational attainment ("educationally disadvantaged").

Why Automate the Follow-Up Process?

While follow-up researchers have conducted studies for several years for a variety of purposes, rising public demand for program accountability has drawn increased attention on automating the process. Traditionally, follow-up entails a time-consuming process of locating and contacting individuals who received specified services. Former participants must respond to a telephone or mail survey and describe their subsequent achievements and experiences. Automated follow-up, on the other hand, relies on the electronic linkage of former participants' records to external databases likely to contain information about the outcomes they subsequently achieved. Parties other than the service provider usually maintain the external databases or MIS. In most cases, data in these external management information systems stem from direct observation of individuals or ongoing, direct interaction with them. Employers report quarterly Unemployment Insurance (UI) wage data, for example, based on their observations of employees working.

In Texas, traditional follow-up cost $13.25 per record. Automated follow up cost 5¢ per record.

Automated record linkages have proven to be an extremely cost-effective approach to collecting student and adult learner outcomes data. Moreover, this method also allows researchers to identify a greater number of potential outcomes ("depth of coverage") for a larger number of customers ("breadth of coverage"). Overall, automated follow-up offers four major advantages over the participant-contact approach:

1. Automated follow-up is relatively inexpensive.
Traditional follow-up methods can be very costly in terms of both time and money. At one time, Texas A&M University conducted the thirteenth week telephone survey of former Job Training Partnership Act (JTPA) program participants on behalf of service delivery areas in Texas. Data collection cost A&M approximately $13.25 per record. By relying on automated record linkages, on the other hand, the central follow-up entity in Texas determined the labor market and continuing education outcomes achieved by former JTPA participants for less than 5¢ per record.

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2. Automated follow-up usually locates more former program participants.

The longer the elapsed time between termination of services or program exit and the follow-up study, the lower the probability that contact information in former participants' files will be up-to-date. Researchers call this inverse relationship between time and data currency the "decay rate" of files or records. The decay rate becomes especially troublesome when a longitudinal research design requires successive waves of participant surveys to determine the delayed and/or long-term benefits realized by former participants.

Automated follow-up greatly reduces the data "decay" that hampers traditional data collection efforts.

Because automated follow-up electronically links with continuously updated files, the decay rate is minimal compared to traditional follow-up. The reason is simple. Those who supply information for the external databases (e.g., employers, educational institutions, the Armed Services, the United States Postal Service, and the Office of Personnel Management) are less likely than former program participants to move or change phone numbers.

3. Automated follow-up avoids response set biases.

In most cases, responses to traditional mail and telephone surveys are voluntary and some former participants may refuse to respond. These non-responses may not be distributed randomly across all subjects in the cohort being studied, causing "response set biases." When response rates are low, response set biases are highly probable but difficult to pinpoint. As a result, they may skew findings without being amenable to any formula for statistical adjustment.

Automated follow-up avoids response set biases because it bypasses former participants altogether and focuses on third-party databases that contain information about the vast majority of the study subjects. In many cases, these third parties maintain the databases for the purpose of administering publicly-funded programs, such as UI benefits. Employers and others must submit data to these linked systems as a matter of law or regulation or as a condition of program participation. As a result, these databases usually contain information on the *entire* universe of persons covered by the program. In the case of the UI wage records database, the primary source tapped by the Texas follow-up entity to document former participants' labor market outcomes, the missing data rate is approximately three (3) percent—much lower than any large-scale traditional follow-up survey could achieve.

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4. Automated follow-up data are accurate and reliable.
The accuracy and reliability of traditional follow-up data are often questionable. Researchers usually take respondents' self-reported behaviors at face value because they cannot directly observe them. In addition, researchers rarely have procedures in place for auditing and verifying responses. Indeed, they typically have no systematic way to detect and correct for exaggeration or under-reporting. Automated follow-up alleviates the issue by relying on databases administered by public entities who regularly audit and verify the data and data collection process. Those who falsify or misrepresent their responses may be subject to legal sanctions. Under such conditions, it is reasonable to assume that data contained in management information systems for publicly-funded programs, such as UI, are more reliable than survey responses.

How Does Cost Affect the Effectiveness of Follow-Up?

The cost of follow-up affects research efficacy to the degree that resources remain available for analysis of the findings. The two major cost categories associated with any follow-up study are (1) data collection, including postage or telephone charges (traditional) or data linkage fees (automated); and (2) data analysis or evaluation. Resources allocated to "conduct program follow-up" must cover both activities. While traditional alumni surveys tend to be very expensive, leaving fewer resources for critical data synthesis and evaluation, automated follow-up's relatively lower data collection costs free up more resources for data analysis, program evaluation, longitudinal research, and so on.

The main costs of follow-up research are data collection and data analysis.

For those who rely on traditional follow-up, deciding how best to allocate funds can lead to two different problems. In the first scenario, researchers focus too much on data collection at the expense of analysis. It is precisely data analysis and the concomitant program evaluation, however, that make the biggest difference in affecting program operations and instituting continuous program improvement. Extensive data collection combined with shallow analysis provides little understanding of why a particular program or intervention has or has not been successful. Without such insight, administrators likely will continue to approve some interventions or services despite their ineffectiveness.

In the second case, researchers skimp on collection with predictably dire results. Meaningful analysis necessitates comparisons that put raw outcomes data in perspective. If service providers do not obtain information about participants' pre-service status and characteristics or do not to gather the same data on comparison groups to establish a baseline, they cannot make useful and actionable interpretations of the outcomes data they obtain. Similarly, if they gather too few variables, their analysis, however thoughtful, will be inadequate.

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What Research Design Should Follow-Up Use?

Researchers should employ a "quasi-experimental design" when analyzing follow-up data. A primary purpose of conducting follow-up is to determine the degree to which services and activities resulted in former participants' achieving post-program outcomes defined in the public interest as desirable. The rules of statistics and the logic of causality require an experimental research design that a) rules out the possibility that the results obtained could have been achieved in the absence of the services provided; and/or b) statistically controls for the independent and interactive effects of other possible explanatory variables.

Quasi-experimental designs meet the second criterion because they use the statistical equivalents of the experimental and control groups. They approximate the rigor of physical science classic experiments by comparing pre-service/post-exit—i.e., input/outcome—measures on the key dependent variables. The following example illustrates this point. Assume that a community college wants to determine the effect of its Tech Prep-enhanced curriculum on the employability and earnings of its students. Because of limited funds, the college's institutional researcher conducts an alumni survey only on the former Tech Prep students. Outcomes data gathered through this narrowly focused survey reveal that seventy (70) percent of the college's Tech Prep program completers found employment in training-related occupations and their annualized earnings average $22,000.

Quasi-Experimental Design

Quasi-Experimental Design: The concept sounds esoteric but it is really quite simple. An experimental design is a scientific approach used to draw inferences about the results of a particular intervention based on observations of an experimental group and a control group. A quasi-experimental design has most of these same constructs but is slightly less rigorous, usually because the study involves people. Humans are notoriously unpredictable because many factors in addition to the particular intervention may influence the way they behave or respond.

Alone, these numbers mean nothing. In the context of a quasi-experimental design, however, they assume great import. The researcher may compare the figures to either a control group or to pre-enrollment employment and earnings data. Administrators might consider the Tech Prep program a "success," for instance, if completers of the same institution's more traditional vocational and

academic programs had post-exit training-related employment rates of 60 and 55 percent and average annualized earnings of $18,000 and $15,750 respectively. If the figures for traditional vocational and academic program completers exceeded those achieved by the former Tech Prep students, however, officials would deem the program a failure. Interpretations would differ yet again if the researcher discovered that, of those former students employed in training-related jobs after graduation, 90 percent had held the same jobs at the same rate of pay *prior* to enrolling in a Tech Prep program. Clearly, data have meaning only in context—a context that a quasi-experimental design provides.

Why Conduct Longitudinal Follow-Up Studies?

Thus far, this paper has focused on follow-up from a "snap shot" or "single point in time" collection perspective. Unfortunately, these snapshots may not accurately depict a workforce program's impact. Both social and economic factors dictate the ease with which individuals become employed, *regardless* of the excellence of the education and training received. For persons in challenging labor markets or whose skills or personal qualities hinder their ability to quickly find a job, snapshot studies offer limited benefits. While a primary purpose of follow-up is to determine whether a particular intervention improved the labor market or continuing education outcomes of customers, an individual's failure to obtain a job or enroll in college at a single point in time does not necessarily mean that the intervention lacked value.

Longitudinal follow-up studies may reveal delayed benefits of the intervention/service.

Longitudinal research can reveal the long-term benefits of interventions. Since it requires identifying a group of customers with some unifying characteristic(s), e.g., everyone who attended a job search seminar in 1998, and following that same group over multiple periods of time, a longitudinal study can help determine the extent of the group's longer-term outcomes and the delayed payoffs of the intervention.

Conducting longitudinal research offers significant benefits over focusing exclusively on "single point in time" results. Participants often do not achieve the desired or intended outcomes immediately after exiting a program. This reality especially holds true in the case of secondary vocational training because employers tend to hire older job applicants with some prior work experience rather than recent high school graduates regardless of education and training. Similarly, the benefits of earning a baccalaureate degree frequently become obvious only over time since many graduates must begin their careers in entry-level jobs regardless of their academic credentials. Over time, however, their degree may quicken the pace of or increase the opportunities for advancement.

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Consider the following example. A school district with a limited research budget decides to forgo longitudinal research in favor of a traditional snapshot survey study six months after the senior cohort graduated (i.e., while they could reasonably expect that contact information in the former students' files was still current). Unbeknownst to the district, unfortunately, the benefits of the programs will not become apparent until a year after graduation. In the meantime, the results of the six month study are not promising. Administrators might conclude mistakenly that the programs under review failed—when, in fact, they simply did not gather data at a time when their former students were enjoying the benefits of their education and training. As this scenario reveals, without longitudinal data, administrators do not have the information they need to make rational decisions about program continuation or termination, curriculum revision, or appropriate and effective modes of instructional delivery.

What Is "Data Ripeness" or Why Do They Want the Data Now?

Like grapes on the vine, data must ripen before they can be harvested and used. In research terms, data are "ripe" when enough time elapses after program implementation for the desired results to materialize and be measured in any fair and meaningful way. Longitudinal research makes allowances for the ripening process. Data ripeness may be a concern when established programs make incremental changes, but the issue becomes especially pressing when new initiatives begin or existing programs make major changes. While feedback about the changes is quite necessary, the data must be ripe for that feedback to be meaningful. Decisions based on faulty data would be as unwise as decisions made in the absence of data altogether.

Decisions based on faulty data are as imprudent as those based on no data at all.

As programs mature, policy-makers and program managers generally learn which data are relevant and which are too error-prone to trust. They distinguish between the data they collect merely for compliance reporting purposes and the data elements that do, or could, form the basis of a feedback loop for proactive program management. They also know in what time frame they reasonably can expect to receive high quality, relevant, and actionable data. Problems arise, however, when artificial constraints (i.e., factors other than the logic of scientific research design) drive the timing of data collection and reporting on program performance.

These constraints usually take political form and cause sound research methods to suffer. In some cases, the statistician's regard for data ripeness buckles under the pressure to implement an innovative but costly program to address a perceived burning need. Other times, the "accountability for results" bandwagon gathers steam, leading policymakers and others to ride roughshod

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over technical issues such as data ripeness in a rush to judgment about any program—new or time-honored. In addition, popular demands for downsizing government and reducing public expenditures cause stakeholders to search for the slightest excuse to cut any program's budget. In the need for quick responses about a program's efficacy, they likely will ignore rigorous standards of empirical research.

All of the factors that tempt stakeholders to ignore data ripeness converge when it comes to evaluating workforce development program reforms adopted concurrently with the shift from input, process, and output measurement to outcomes measurement. In this environment, workforce staff grapple with implementing legislative policy implementation, modifying existing data collection systems, and perhaps even changing organizational and staff responsibilities. If, simultaneously, they must alter the way they measure and evaluate the resultant local programs, it may become too much for otherwise dedicated staff. As they seek to demonstrate that their programs are operating successfully despite the enormity of change at hand, program operators may conceivably push the results of their programs before those results actually indicate program success.

In the wake of new initiatives or sweeping reforms such as those embodied in the Workforce Investment Act or the Personal Responsibility and Work Opportunity Reconciliation Act, data elements related to both desired outcomes and possible explanatory variables crucial to performance-based program evaluation and accountability may be ill-defined or missing altogether.

What causes the struggle between data collectors and other stakeholders? In many cases, the basic answer is that political lifecycles are often shorter than economic lifecycles. In other words, the political need to demonstrate that a new initiative or reform is successful may occur sooner than the statistician's ability to legitimately evaluate a program within a reasoned quasi-experimental design. Every time an election looms over the horizon or their taxes come due, the public—now more accustomed to accountability for results—demands to know what they received in return on the investment of their tax dollars. Public officials, hamstrung by relatively short election cycles, respond to their constituents by seeking immediate evidence of success from program administrators. In turn, program administrators, often living from one funding biennium to the next, demand that their statisticians supply numbers—"Just give me whatever you've got!"—to satisfy reporting requirements. "Whatever you've got" inevitably is incomplete. Why? When compared to the rapidly changing whims of public opinion, relatively brief spans between elections, and short program budgeting cycles, empirical research—the stock in trade of statisticians—proceeds at a snail's pace.

Often the public expects to know the impact of an initiative or reform long before useful follow-up data exist.

Why Do Data Take So Long to Ripen?

Many factors contribute to the dearth of truly sound and useful data about specific programs that statisticians and program administrators can report to elected officials and their constituents. First, empirical research is time-consuming under the best conditions. Statisticians must operationally define newly conceived outcome variables, provide data collection and coding instructions to practitioners in the field, inspect incoming data for errors, and analyze the resultant data.

Often stakeholders' unrealistic expectations hamper this process. Policy-makers and program administrators may impose unreasonable deadlines and expect statisticians to cut corners to meet them. They also may ask statisticians to "make do" with variables on hand in legacy systems to explain program results without regard for the suitability of those data. These efforts to provide quick results distract researchers from gathering truly ripe data.

Empirical research always takes a long time but political pressure, failure to include evaluation in program design, and the very nature of the program studied may delay the process further.

Collecting sound data becomes even more difficult when planners fail to design programs with evaluation in mind. If statisticians and evaluation specialists do not participate in the program development process to address burning demands, key decision-makers may not think about which outcomes to count or how to measure program success. During a reform's launch phase, for instance, the participating agencies' legacy MIS may not contain the independent variables appropriate for explaining post-program results (the dependent variables). Such programs must be "retrofitted" for data collection once they are up and running—a time-consuming process, indeed.

Finally, the very nature of the intervention under study may delay the harvesting of useable data. Even when statisticians hold their ground for a well-conceived and well-executed research design, the real pay-offs of a reform—particularly a sweeping one—may not occur before a program's first, second, or even third compliance reporting deadline. Documented evidence of real but delayed results may arrive too late to save an effective program from the budget ax or sunset review. The text box describing Texas' Tech Prep experience (below) demonstrates the importance of allowing data to ripen before evaluating large-scale initiatives.

Indeed, as Figure I illustrates, regardless of the reasons behind the duration of the ripening process, the relevance of data gathered on the outcomes of participants increases in direct proportion to the length of time a program operates.

Tech Prep: Data Ripeness Challenges in Action

A recent case study of the implementation of Tech Prep programs in Texas, conducted by Career Development Resources (CDR, formerly Texas SOICC), may best illuminate the issues of data ripeness and the political lifecycle. For the sake of clarity, this example assumes that the usual covey of data collection problems (definitions, coding instructions, quality control in the field, and level of measurement and differentiation) disappeared prior to Tech Prep's implementation. Instead, a new crop of data elements basked in the sunshine of sound methodology from the first day the seeds of Tech Prep reform were planted.

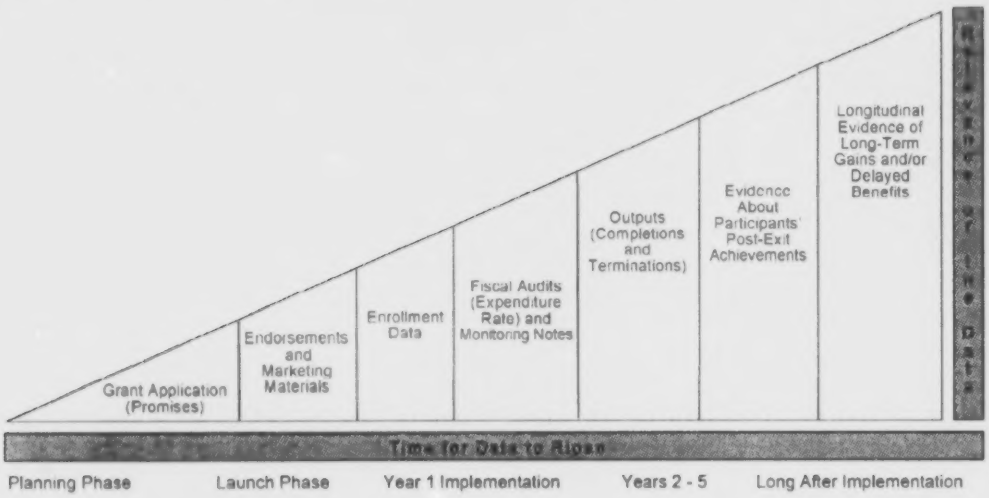
Faced with this healthy crop, researchers asked a fundamental question. When should we harvest? When, realistically speaking, can we anticipate a reasonable yield? Expecting reportable results at the end of the first program year amounted to measuring Tech Prep's yield as soon as the seed germinated but well before the plants set deep roots, formed heads of grain, and ripened. Indeed, the Tech Prep strategy entailed changes that required a growing season much longer than the first program year's report deadline or the political life-cycle of voters' expectations.

The Tech Prep reform initiative, by its very nature, necessitated a long lag-time between implementation and results on both the delivery and receiving ends of the equation. On the delivery side, Tech Prep required changes in the curriculum—meaningful changes in course content and modes of delivery. Real change takes time: time to secure employer input; time to infuse the curriculum with knowledge, skills, and abilities identified as necessary by employer-informants; time to devise authentic assessment instruments (i.e., criterion-referenced competency demonstrations); time for employers to validate assessment instruments and "buy into" a new credentialling process; and time to work out the details of articulation among secondary, postsecondary, and other workforce development programs. The Tech Prep reform also demanded sufficient time for the professional development of instructional faculty—not only to master new course content, but also to overcome the attitudinal gulf between traditional academic and vocational orientations.

Comparable time lags needed to occur on the students' side of the learning equation, as well. Tech Prep envisions orienting students to the world of work during their middle school years and then moving them through progressively more challenging courses and work-based experiences in a coherent sequence extending well past completion of the twelfth grade. The first students who could be said to have participated fully in a Tech Prep program would be those who were enrolled in middle school when Tech Prep-inspired innovations were first implemented. At the earliest, some would have realized a small fraction of the intended benefits if they sought full-time employment upon completing the secondary portion of Tech Prep education and training four years later. The full benefits of Tech Prep participation could not set in realistically for most students until the end of the sixth year after program implementation. By then, employers typically would have adjusted compensation and work assignments to the estimated work maturity of those who entered the labor market immediately after graduation. Also by that time, those former students who

Figure I
Utilization of Available Data

Relevance to Accountability for Results


Grant Application (Promises)
Endorsements and Marketing Materials
Enrollment Data
Fiscal Audits (Expenditure Rate) and Monitoring Notes
Outputs (Completions and Terminations)
Evidence About Participants' Post-Exit Achievements
Longitudinal Evidence of Long-Term Gains and/or Delayed Benefits
Time for Data to Ripen
Planning Phase
Launch Phase
Year 1 Implementation
Years 2 - 5
Long After Implementation

went on to pursue the postsecondary portion of their Tech Prep education and training would have emerged with advanced associate degrees, licenses, certificates, or apprenticeship/on-the-job completion credentials.

While districts reported several thousand "Tech Prep completers" after the first year of operation, these students were not full-fledged beneficiaries of all that the curriculum reforms envisioned. Consequently, researchers did not expect that the post-exit results achieved by "Tech Prep program's first exit cohort" would differ significantly from those experienced either by traditional academic or traditional vocational students. Follow-up data gathered by CDR substantiated such cautious and realistic expectations. The longer the elapsed time since the program's implementation, however, the more Tech Prep students' post-exit results have differed in a positive fashion from the results achieved by non-Tech Prep students in the same exit cohorts.

CDR hesitated to assign much weight to the data collected on Tech Prep results during the first few years after program implementation. While compelled to issue reports, CDR consistently added extensive footnotes advising caution in interpreting "unripe" Tech Prep data. Fortunately, the caveats were heeded. Had stakeholders rushed to judgment, they might have terminated well-executed Tech Prep programs because they lacked desired results in the near-term. Admittedly, the delay of policy-relevant data meant that some weak Tech Prep programs continued when they should have been revised or terminated. That consequence, however, was a small price to pay when giving a well-conceived reform the opportunity to blossom and mature.

What Factors Determine How Long Data Should Ripen?

When researchers face a reporting deadline imposed for political and/or budgetary reasons rather than according to the rigors of empirical research, they must assess whether sound data exist at that time. How can experts know whether data are sufficiently ripe? The following tenets can assist in that determination.

- The more innovative or unprecedented the reform initiative, the less likely it is that participating agencies' legacy information systems already include appropriate explanatory variables.
- The more sweeping the reform initiative, the less likely it is that any entity directly involved in its implementation already collects appropriate outcomes data.
- The more stakeholders view a reform initiative as controversial, imposed from the top-down, or crossing over previously established bailiwicks of multiple entities, the more likely it is that turf issues will impede statisticians in their efforts to obtain data appropriate for fair, meaningful, and actionable program evaluation.
- The greater the elapsed time between a program's implementation and its genuine pay-off, the less likely that the program will look successful a) within the first performance reporting cycle; b) by the end of the first biennial budget review for funding renewal; c) by the time of the first re-election bid by those decision-makers who pushed for the program's adoption; or d) by the time the public, impatient for accountability, demands program performance data.

Factors Affecting the Availability of Truly Policy-Relevant Data

- The level of innovation in a reform initiative
- The depth and breadth of the reform initiative
- The degree of controversy, top-down imposition, or hostility and distrust among various stakeholding entities that are supposed to collaborate in implementing the reform
- The amount of time between a reform's implementation and its expected outcomes relative to the grace period allotted before the public demands measurable results

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What Are the Roles and Responsibilities of Stakeholders within a Follow-Up System?

To function effectively, stakeholders within a follow-up system must clearly define their roles and responsibilities. A successful follow-up system has multiple components, including data collection, program evaluation, and setting standards to measure performance. Researchers call these the "description, prescription, and policy-making" aspects of a comprehensive performance measurement system. A local workforce development board likely will participate in all three activities, perhaps in partnership with one or more state government entity in each area. Regardless of which entities oversee the process, drawing the boundaries or lines of responsibility and authority relative to each of these domains can make the difference between a useful and functional follow-up system and a body of confused and frustrated stakeholders.

A comprehensive follow-up system includes data collection, program evaluation, and standard-setting. These are its description, prescription, and policy-making components.

In Texas, the process of building a comprehensive performance measurement system began in 1989, when the Texas SOICC (now called Career Development Resources or CDR) conducted and published the first feasibility study for using UI wage records to identify student outcomes. Since that time, many hours of confrontation, conflict, and conciliation have passed within the state's education and workforce development system. As a result, today there is widespread agreement on a set of core performance measures, key program definitions, and database file structures capable of providing the underpinnings of a comprehensive system.

Preserving this statewide consensus is not easy. Texas' automated performance measurement and evaluation system has many complex technical, definitional, and political features that stakeholders must revisit and refine constantly. Still, despite significant changes in the external political and programmatic environment and turnover in key partner agency and legislative stakeholders, the state has made steady progress in developing and institutionalizing Texas' comprehensive performance measurement system in the three key areas of data collection, program evaluation, and policy response.

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Data collection

Data collection involves gathering the raw numbers that serve as the basis of program evaluation. Without the collection of appropriate and reliable data and the organization and reporting of data under designated performance measures, program evaluation amounts to little more than anecdotal conjecture. Similarly, there is no value in establishing interesting and politically palatable performance measures when the necessary data collection is neither technically feasible nor cost effective.

Data collection includes:

- devising and agreeing to operational definitions of each common program measure;
- securing required interagency data exchange agreements;
- implementing a valid, reliable, and cost-effective methodology for gathering necessary data;
- establishing procedures for data coding and storage which facilitate efficient data transmission and retrieval while safeguarding the privacy and confidentiality of individually-identifiable and firm-specific information;
- generating frequency distributions, cross-tabulations, and other descriptive statistics which reveal how many former students and program participants achieved specific outcomes and under what conditions;
- expanding the breadth of linkage options to approach with the goal of obtaining outcomes for one hundred (100) percent of all subjects.

As this list suggests, the data collection process is the most technical of the three components of follow-up.

Program Evaluation

In contrast to data collection, program evaluation goes beyond descriptive statistics. It requires establishing a framework for setting program benchmarks and performance standards that analysts can use to classify programs based on hard evidence about their outcomes. Analysts perform policy simulations—a "what-if" analysis—to design reasonable standards. They ask, for example, "*What* percentage of programs would exceed or fail *if* the standard for post-exit employment were set at seventy-five (75) percent?" or "*What if* the standard for earnings at entered employment were raised by $100 per quarter?"

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Once standards are set, actual evaluation begins. Program evaluation entails assessing program outcomes against established standards and identifying which specific programs, institutions, or delivery systems perform poorly and which represent "best practices." In addition, it involves creating and applying an adjustment model to account for varying sub-populations served, regional economic conditions, etc., in order to compare all programs fairly and in context.

Policy Recommendations

After evaluation, officials must formulate policy recommendations to improve under-performing programs, to assist or sanction non-performers, and to promote "best practice" models that consistently exceed standards. These recommendations require skill and experience to devise. Clearly, a poorly performing program needs to be changed, but how? The "best practices" which work for one subpopulation in a specific labor market may not produce similar successes among other subpopulations or under different labor market conditions.

Effective and efficient policy responses require a thorough understanding of the factors that determine program performance. Policy developers must explain the direct effects of demographic and intervening factors on the outcomes documented during program evaluation, the inter-relationships among those factors, and the interaction effects of the political and economic environment in which the programs operate. By using hard performance data and rigorous analysis (rather than conjecture, anecdotal information, and marketing hyperbole), they must determine which interventions are most likely to work, for whom, and under what conditions. Then, and only then, can policy-makers, administrators, and service providers determine how to tailor programs to customers' needs and maximize returns on the investment of taxpayers' dollars.

Why Should Separate Entities Oversee the Different Areas of Follow-Up?

In the broadest sense, the data collection, performance evaluation, and policy response processes are interdependent and inseparable. The success of policy-makers in promoting what they believe to be in the public interest depends on the predictive validity of the program evaluators' simulations. The soundness of the program evaluators' models and simulations, in turn, depends on the validity, reliability, and timeliness of the information gathered by the data collection entity. Despite these close ties, a separate entity should perform each task. The reason is simple. Each phase of the follow-up process has unique goals and requires specific skills to attain them. The goals of one phase may conflict with those of another, making it unsuitable for one entity to perform all three phases.

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The data collection process, for example, has specific and limited objectives. It seeks to maximize technical proficiency by linking as many relevant databases as possible to identify the full range of potential outcomes and participants for the least cost. The data collection (or follow-up) entity concerns itself with adequately defining the measures used so that each variable meaningfully represents or serves as proxy for its measurement objective. On a technical level, the follow-up entity focuses on linking databases, preserving individual participant level record confidentiality and security, negotiating data sharing agreements, and expanding the range of coverage until it exhausts all significant possibilities.

Noticeably absent from this litany of the follow-up entity's concerns are value judgments, sanctions, and policy-setting activities. In fact, even the *perception* that the data collection entity makes judgments or enforces policy could jeopardize its relationships with the various agencies and service providers on whom it depends for participant information and outcomes data. If partner agencies and service providers fear or mistrust the data collection entity, they may respond in ways that impede the data collection process. They may drag their feet and fail to deliver program participant information in time to take advantage of very narrow windows of opportunity in the record linkage schedule or they may attempt to thwart data exchange agreement negotiations. They even may "sandbag" their data, "cook their numbers," or otherwise second-guess the fiscal implications of subsequent program evaluations.

To avoid these obstacles, the follow-up entity must remain independent and detached from program evaluation and policy-making (other than policies regarding data quality control, data sharing, and data security). In short, the follow-up entity should deliver valid, reliable, and timely information at a reasonable cost and nothing more.

The Division of Labor for a Follow-Up System

1. **The data collection entity**
   engages in description:
   Here is what happened.
2. **The program evaluation unit**
   engages in prescription:
   If you want to achieve A, do X;
   if you want to achieve B, do Y.
3. **The policy-makers**
   engage in decision making:
   Is it in the public interest to achieve A or B?

The program evaluation function, on the other hand, is more politically sensitive by its nature. Evaluation includes setting standards and, invariably, labeling programs as "meeting," "exceeding," or "falling below" those standards. Such labels have implications in terms of public perception, funding, and program control. Programs that exceed standards often receive bonuses and incentive payments while service providers who fall below their performance-based contract standards may have some portion of their payments withheld or forfeit their place on a certified vendor list. Administrative entities may face sanctions—even reorganization—if they consistently fail to meet performance standards.

Not surprisingly, decisions about where to draw the lines for performance standards give rise to arguments based on self-interest. In the data collection phase, researchers settle disputed claims and findings through "data dialog" according to recognized statistical rules. In the evaluation phase, however, well-reasoned estimates about who will be affected and best guesses about how stakeholders will react take precedence over data.

To a certain extent, analysts can perform many evaluation activities in a neutral and detached fashion. Inevitably, though, politics come into play. When running a simulation to determine what happens when the standard for post-program employment is raised or lowered by ten (10) percent, for example, analysts can (and should) be "blind" to the parties affected. They may strip codes or names identifying specific service providers from the database during the simulation to determine how many (but not *which*) would fall into the "failed" and/or "outstanding" categories. The process becomes politicized, though, when the stakeholders are identified and about to receive real consequences. At that point, value judgments must be made and potential repercussions must be weighed. It is here that the data analysts should bow out.

While analysts can remove labels and evaluate programs without bias, policy makers must weigh the consequences of judgments about real service providers and programs.

Devising policy responses to the evaluations is the most partisan and politically-charged of the three processes. Neither the technicians who gather data nor the analysts who concoct all the simulation scenarios can make policy because, ultimately, such decisions depend on the will of the people—to the extent that elected officials and their political advisors can decipher it.

The will of the people may change dramatically over time. What does not change, however, is the need for sound data to drive informed choice. For this reason, Texas has drawn a careful division of labor for its follow-up process. Those who collect the data adhere to widely recognized rules of sound research and descriptive statistics. Those who make policy wrestle with the

political ramifications of each decision. Those who perform program evaluation have a foot in both arenas. On the one hand, they use their imagination or take their instruction from the policy-makers to determine which simulations to examine. Thereafter, they follow the data collectors' rules of statistical inference to take each scenario to its logical conclusion. Each step of the follow-up process, then, is governed by a separate kind of logic and professional responsibility. The differences between these functions—however subtle at times—dictate that they be performed by separate entities.

A Few Concluding Remarks

If strategic planning maps the future course, then follow-up information is the compass. It guides planners in their goal-setting and informs every aspect of their decision making as they draw up their plans. The logic behind using follow-up data is elementary. For new and innovative programs to succeed, their participants must meet or exceed the intended goals. The only way to know if they have done so is to monitor their post-program outcomes. Ideally, a comprehensive follow-up system would engage in routine snapshot and longitudinal follow-up research to assess how well service providers meet service expectations. By combining the resultant customer labor market outcomes with other measures of performance and quality customer service, researchers can lay the foundation for improved program planning and continuous program improvement for the entire workforce development system.

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Chapter 11
The Case for Career Majors
Using Career Majors to Bridge the Occupational Communication Gap

by Richard Froeschle

People cannot discover new lands until they have the courage to lose sight of the shore.
— Andre Gide

The term "career major" means different things to different people. Educators and school personnel interpret it one way; those in the economic and labor market information community view it in another. To add to the confusion, those within these respective constituencies use more than one term to express the notion of "aggregating broad fields of study relating to clusters of industries and occupations"—the definition of "career major" in the federal School-To-Work legislation. The plethora of terms, which range from "career clusters," "career concentrations," "career pathways," "career groups," and "career majors" to "units of analysis" and "supply/demand clusters," is enough to make even the most experienced bureaucrat cringe. It certainly creates confusion for teachers, planners, parents, and students.

The adoption of a well-defined, universally understood notion of career majors would offer hope to these disparate groups. From a systems- or capacity-building perspective, the career majors concept would help foster the creation of an integrated education and workforce development system, adding clarity and purpose to instructional content. As important, however, applying the same career majors system across multiple functions would create the all-important synergy necessary to drive institutional reform, integrated information systems, and program effectiveness. The delivery of education and training organized around career majors marks a necessary step in the transition from the current course-based approach to the forthcoming skills-based approach. In fact, for purposes of this discussion, a "career major" is defined as *a broad field of study encompassing both academic and work-oriented learning objectives under which students, educators, and employers can develop reasonable expectations for course content; skill, and knowledge acquisition; and learning objectives linked to one or more occupational proficiencies or destinations.*

A well-defined career majors system would serve as a common language among educators, LMI experts, and employers.

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Labor Market Information and Career Majors

The career majors concept facilitates the connection between an educational curriculum and occupational labor market trends. It is therefore critical that a career majors concept be incorporated as a labor market information (LMI) taxonomy under which both educational and labor market data are collected and reported.

Development of a uniform career majors system requires thoughtful analysis of key labor market information if the system is to reflect a state's occupational composition and growth patterns. This analysis requires input from stakeholders in both the public education and labor market information communities. Experts now use the acronym LMI to mean not just labor market information but "labor market intelligence," a concept that has broad appeal and understanding to the private sector. Historically, LMI has implied a narrow set of labor market employment statistics used to generally describe industrial and occupational composition and trends. As such, LMI figured little in workforce development program planning or operations. Replacing "information" with "intelligence," however, conjures up an entirely new perspective on employment-related statistics. Following the lead of the military and private sector, which research the environment before taking action, government analysts now see the benefits of reviewing LMI before making planning decisions. (See Chapter 4: *Using Labor Market Intelligence to Guide Strategic Planning* and Chapter 7: *Getting Started* for more details.)

A uniform career majors system entails analysis of key LMI.

Integration of labor market intelligence in workforce planning provides a useful context for a uniform career majors system which reformers can use to effect institutional change. In turn, many data collectors can employ the career majors construct to improve their LMI applications. This paper presents five unique, but highly interrelated, areas that could benefit from a comprehensive career majors framework. These practical applications reveal how a commonly defined system of career majors can facilitate educational articulation from secondary to postsecondary to employment; drive meaningful career awareness and exploration for students; and advance efficient data collection, sharing, and reporting for purposes of continuous program improvement.

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Application One: Occupational Families

Educators and labor market analysts view the whole process of data collection and data use differently. Educators tend to use whatever taxonomy the educational establishment requires for compliance reporting. They stress that education prepares students for life, not just for a specific occupation. Thus, within any course or program of study, students can acquire many competencies that better prepare them for a wide range of vocational choices. The argument asserts that limiting the relationship of any program of study to a specific subset of occupations represents an injustice to the educational system. Labor market analysts, on the other hand, tend to view occupations in terms of specific skills valued by employers that constitute requisite hiring requirements. They demonstrate little regard for how individuals acquire those skills. Given these different perspectives, it is critical that a "bridge tool" be created under which both camps can be comfortable and data can be used to forge closer ties between education and the workplace.

Currently, the systems that labor market analysts use to collect labor market *demand* information differ fundamentally from those used by educators to calculate labor *supply*. Educators tend to estimate supply by grouping instruction or student course-taking behavior based on programs of study defined under Classification of Instructional Programs (CIP) codes. They count the number of persons enrolling and completing a prescribed course of study, for instance. Labor market analysts, on the other hand, collect and report occupational information at a very detailed level using primarily Occupational Employment Statistics (OES) survey codes. Although this taxonomy is hierarchical, it offers too much detail to coincide precisely with CIP-coded supply data—especially considering the differing perspectives presented above. Still, many OES-coded occupations have significant similarities to specific programs of study, especially in preparatory instruction requirements, and thus can potentially be linked.

To improve the match between LMI and educational data, labor market analysts can apply a career majors system as the clustering concept for reporting a "family" of occupations at an aggregate level of detail.

To improve the match between LMI and educational data, labor market analysts could apply a career majors system as the clustering concept for reporting a "family" of occupations at an aggregate level of detail. It makes sense to aggregate detailed information and report occupational characteristics, including prevailing wages and employment outlook, at the higher level of detail of a career majors or comparable grouping. Some LMI professionals already use similar concepts, such as the "units of analysis," originally developed by the National Occupational Information Coordinating Committee (NOICC), to cluster information about demand (vacant jobs) and supply (available skilled workers).

Reporting on families of occupations united by training requirements would help link the systems used by educators and labor market experts, enabling both to develop similar occupational supply and demand equilibrium ratios or comparison statistics. A commonly understood career majors system would allow these disparate bodies to combine their data systems and generate useful data on job prospects for students and job seekers alike. Thus, the career majors construct could facilitate coordination between state Department of Labor (DOL) representatives and educational liaisons.

Labor market experts would find the transition to the occupational family clusters to be relatively simple. The new O*NET database, quietly replacing the Dictionary of Occupational Titles (DOT) as the defining occupational classification system in this country, has a hierarchical design that can be easily adapted to a career majors system. In fact, Career Development Resources (CDR, formerly the Texas SOICC) has already piloted such a clustering system as a part of the *OSCAR* School-To-Careers information system funded by the DOL's O*NET office. The *OSCAR* software allows the user to engage myriad assessment and comparison functions, resulting in a subset of detailed occupations that match student interests or preferences. Within the *OSCAR* program, each occupation has also been assigned to a career major, enabling the user to quickly ascertain what similar occupations fall within the same major as their selected occupation. This system creates an excellent link between assessment, labor market supply and demand information, and occupational characteristics information provided through O*NET.

The O*NET system would enable labor market experts to easily begin using occupational family clusters.

Moving to a "family of occupations" system guided by career majors would also alleviate the problem of too many coding systems. Today, the national labor market information system is awash in duplicative occupational coding systems that often have spurious relationships to each other. Most of these coding systems were developed independently to assist the states in fulfilling multiple reporting requirements or compliance documentation. Although crosswalks (or cross-reference) tables have been meticulously constructed, moving from one coding system to the next at the detailed occupational level is an imprecise exercise.

The career majors concept could lend a degree of stability to this process of connecting LMI coding systems if each federal occupational classification system were crosswalked to a state's career majors system. Data collected to satisfy federal or state reporting requirements or for state and local economic development or workforce planning could be aggregated to the level of the career major and shared broadly with partner agencies and local stakeholders.

Such aggregate reporting could then be used for guidance and counseling, building a market-driven rationale for a course of study or program offering, describing labor market trends for strategic workforce planning, identifying the relationship and calculating the return on investment between occupationally-specific training and labor market outcomes, or facilitating articulation between the curricula taught at the secondary level and that provided at the postsecondary level. (This monograph contains essays that discuss all of these concepts in greater detail.)

In the end, implementation of a uniform career majors system would make labor market intelligence more relevant to the education and training community. Much of the currently available labor market information lies unused because no "common currency" or contextual understanding translates it into real-life scenarios familiar—and therefore more pertinent—to educators. A career majors system could help bring labor market statistics, and their application, into much closer alignment with educators' needs.

Application Two: Skills Standards

The career majors concept could also form the basis for more systemic collection of skills standards information. The National Skills Standards Board (NSSB) created an entirely new coding taxonomy to describe the world of work and serve as a foundation for skills standards data collection and development. Unfortunately, this new "economic sectors" concept—which divides all economic activity into fifteen categories—has virtually no relationship to any of the coding systems presently in use. Without challenging the validity of how the sectors were designed, this lack of integration severely limits a state's ability to use the concept as part of an integrated information system.

A career majors system would permit better collection of skills standards information.

The inability to match NSSB information with other labor market intelligence defeats the purpose of collecting skills data. The skills standards effort expressly seeks to create a comprehensive approach to identifying critical knowledge, skills, and abilities in demand by employers and, in turn, use that information to shape education and workforce development programs to align more closely with needs. It should serve as a link between employers and educators. At present, however, most states have difficulty identifying information about employer skill needs, much less using the information to drive postsecondary and second-chance programs. A primary reason for this misalignment is the lack of a common conceptual vocabulary with which to communicate.

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A commonly understood career majors system could provide that common vocabulary. It could be used to communicate cross-functional skills identified by employers, as cataloged under a federal initiative to identify basic work skills and within O*NET, as a vehicle to modulate curriculum development and instruction at all levels of education. Think of the possibilities if a state used a career majors system, not only to integrate information about occupational characteristics and supply and demand, but to build a skill standards system as well. One can truly imagine an integrated educational system that exposed students to a variety of career majors at the secondary level and enabled them to select a major, consisting of specific courses customized to that major's learning objectives. Then students could move into a postsecondary curricula that, shaped by employer input, reflected a consistent body of skill requirements. In this way, adoption of a career majors system would improve skills standards information at the postsecondary level and facilitate course articulation from secondary education to postsecondary education to employment. (See Chapter 4: *Using Labor Market Intelligence to Guide Strategic Planning* for a more in-depth examination of this fully articulated education system.)

Students, schools, and employers would all benefit from a skills standards classification based on career majors.

Obviously, students would benefit from such an integrated system, but they would not be alone. Schools and employers would profit from the system as well. Currently, many employers complain about what they see as the poorly-prepared products of postsecondary education. In response, many schools have adopted a "guarantee" program as a way to stand behind the quality of their education. To make such guarantee programs work, schools must have a greater awareness of employer skills requirements and begin workforce-related instruction earlier in the students educational career. The career majors concept would allow schools to build core competencies related to each major and verify through employers that these were indeed the competencies required. The school could then confidently stand behind graduates in any career major, knowing that the instruction imparted—assuming delivery through a solid, criterion-referenced curriculum—matched the expected outcomes.

Application Three: Career Guidance

A new concept of career majors could apply to a third area of great interest and concern to educators—that of career awareness, exploration, and guidance. Career awareness and exploration embrace the notion of providing students suitable information with which to make *informed* choices relative to future education and labor market pursuits. The use of career majors would allow instructors to communicate information describing labor market trends and

characteristics in a meaningful way to guide career and educational choice. As discussed in the NOICC National Career Development Guidelines, career guidance in the earlier grades seeks primarily to introduce and raise awareness of the world of work. Even in the later grades, career exploration focuses on helping students and their families understand a wide range of postsecondary education and career options. At all levels, the effectiveness of showing students what happens in the world of work depends on whether students perceive the relevance and connection between what they learn in school and what the labor market demands.

The use of a standard career majors system within the career guidance function would foster this goal of broadening students' awareness of occupational possibilities and enable them to make better decisions about their future. Since, generally, students do not benefit from completing their career exploration process too quickly or getting locked into specific occupations too soon, the career major, in effect, would serve to keep more options open for the student. Rather than deciding to be a nurse, for example, the student could select a health-oriented career major which allowed him or her to gain real world understanding of not just one occupation but the scores of other health-related occupations that would be included within that major. In addition, a career majors system, combined with an array of work-based learning experiences, would allow students to experience a more "real life" feel for occupations within specified general clusters—enabling them and their families to make more informed choices when those key decision-making times occurred.

A career majors system might help students make better decisions about their school work in the present as well. Through exposure to work-based learning experiences, such as those detailed in the School-To-Work legislation, students learn the relevance of academic courses. In theory, that greater relevance leads to higher student motivation, greater learning proficiency, and decreased likelihood of dropping out. A critical advantage of using career majors within a guidance paradigm is that it helps to make career planning a more empirical or data-driven experience. Too often, students make career decisions without a shred of labor market reality to inform them. Career majors provide the construct that allows students to better understand the labor market and translate that understanding into course taking behavior. For example, if a student selected a health services career major *and* reviewed labor market information describing characteristics of the occupations within that major, that student would find that most occupations in the major required higher levels of science. He or she would then realize the importance of taking additional science classes in the present in order to pursue a health services career.

Career majors would enable students to make better informed decisions about their education.

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If schools are to rely on a career majors construct to help students discover the greater world of work relevance to their academic subjects and make more informed decisions, the state must make available all the pertinent labor market information. Once again, the new O*NET database would be useful in such a scenario, given the extensive information about occupational characteristics, educational preparation required, etc., that it contains. There is nothing more confusing to a counselor, educator, or especially a student than to try to put the "square peg" of detailed occupational statistics into the "round hole" of courses or programs of study. Data producers and educators must take responsibility for devising an approach that is "transparent" to everyone except those that construct the data sets. In this environment, data produced under a career majors concept would be easiest for all stakeholders to adopt.

A common career majors system would mean that state-level LMI would be consistent for students and counselors.

Another source of confusion within the career exploration process lies in the inconsistent use of occupational titles or categories—even among state publications and automated career guidance tools. Labor market analysts know from experience that some users require occupational data at more detailed classifications than others, hence the use of different titles. This attention to the target audience, however, would not preclude the consistent use of the same career clusters or majors across the many information tools that students routinely use. For example, imagine that a state adopted a career majors system that encompasses eight (8) majors and thirty-five (35) career groups within each of those majors. Imagine also that the state produced a career information tabloid and an automated career information delivery system (CIDS) that it promoted for use by schools throughout the state. Lastly, imagine that neither the agency producing the tabloid, nor the vendor providing the automated CIDS, had adopted the state career majors system. When the student began to explore the world of work using the tabloid and CIDS, she would have no idea how the career information she discovered related to her particular career major. Once a state adopted a standard career majors system, however, the many publications and software packages used for assessment or exploration would be consistent with that system.

Application Four: Education/Employment Connection

The fourth application for a career majors system would be to improve the articulation among high schools, postsecondary institutions, and employers. Most states have adopted some integration, sequencing, or articulation among these various levels under the guise of the federal Tech Prep initiative. Still, very few have imposed a career majors system that describes labor market trends, captures course-taking behavior, and helps focus on which occupational areas need to be part of an articulation agreement that leads to a better prepared workforce.

Recently, however, the Office of Adult and Vocational Education (OVAE) developed a career preparation structure that uses sixteen career clusters (see text box that follows). States, education representatives, and employers and industry groups have formed consortia within each cluster, helping to strengthen the connection between education and work.

Such a career majors system could provide the basis for establishing articulation agreements on three fronts. Within a career majors system, each student in a given major would master competencies in a sequential fashion. Not only would this plan give the student the chance to master a greater number of competencies as a part of the educational process, but it would limit costs—both in time and money—by eliminating repetition of courses whose competencies the student has already mastered. Such an articulation system could only happen if, at each level, there were a common agreement regarding the core competencies and the standards against which student performance would be assessed.

Given the increased mobility of students, a uniform career majors system would greatly facilitate educational articulation.

The value of using a uniform career majors system as part of educational articulation would increase when the student population was mobile, when students had multiple postsecondary program options, or when students exited prior to program completion. If the state adopted a career majors system with standard core competencies, then regardless of whether the student moved to postsecondary education at a local institution or enrolled in a high school across the state, the mastery of core concepts within a major would transfer to all statewide public institutions. Even in cases where students did not complete a degree or certificate program (i.e., exiting as "marketable skills achievers"), the employer community could still rest assured that the student had mastered the basic competencies that might qualify them for multiple entry-level jobs. This standardization would increase students' marketability and earnings potential despite their lack of degree or certificate. Thus, the career majors system would help ensure consistent competency attainment and data reporting across all education levels and geographic regions—perhaps even across state consortium boundaries—for high school and postsecondary students throughout the state.

OVAE's Sixteen Career Clusters

Agriculture and Natural Resources
Planning and managing agriculture, food, fiber, and natural resources systems. Production of agricultural commodities, including food, fiber, wood products, horticultural crops, and other plant and animal products. Financing, processing, marketing, and distributing agricultural products; farm production and supply and service industries; horticulture and landscaping services; and the use and conservation of land and water resources; development and maintenance of recreational resources. It also includes mining and extraction operations and related environmental management services.

Construction
Designing, planning, managing, building, and maintaining physical structures and the larger built environment including roadways and bridges and industrial, commercial, and residential facilities and buildings.

Manufacturing
Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Logistics, Transportation and Distribution Services
Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

Information Technology Services
Designing, developing, managing, and operating communication and information technology systems, networks, and related hardware and software for telecommunications and computing services.

Wholesale/Retail Sales and Services
Planning, managing and performing wholesaling and retailing services and related marketing and distribution support services, including merchandise/product management and promotion.

Financial Services
Planning, managing, and providing banking, investment, financial planning, and insurance services.

Hospitality and Tourism
Planning, managing, and providing lodging, food, recreation, convention, and tourism, and related planning and support services such as travel-related services.

Business and Administrative Services
Planning, managing, and providing administrative support, information processing, accounting, and human resource management services and related management support services.

Health Services
Planning, managing, and providing diagnostic, therapeutic, and information and environmental services in health care.

Human Resources
Planning, managing, and providing human services, including social and related community services.

Arts and Communications Services
Designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.

Legal and Protective Services
Planning, managing, and providing judicial, legal, and protective services, including professional and technical support services in the fire protection and criminal justice systems.

Scientific Research, Engineering, and Technical Services
Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering), including laboratory, testing, research, and development services.

Education and Training Services
Planning, managing, and providing education and training services, and related learning support services, including assessment and library and information services.

Public Administration/Government Services
Planning, managing, and providing government legislative, administrative, and regulatory services and related general purpose government services at the federal, state, and local levels.

Application Five: Follow-Up and Program Evaluation

The last systems building arena that could benefit from a career majors system falls within the realm of student follow-up and performance accountability. Showing accountability for the expenditure of public education dollars requires a follow-up system which can document, for example, that what a student learned in high school actually allowed the student to progress to postsecondary education or had direct relevance to employers. The career majors system could help demonstrate public accountability to stakeholders in a number of ways. First, it would document training-related employment for those students entering the labor market. Second, it would demonstrate that within the career majors framework a student could move to additional education and training with less duplication and lower costs than a student who did not take courses within a major. It would serve as a framework so that the language of follow-up systems matched the language used in program design.

Recent findings from the wage record-based automated follow-up research conducted in Texas and Florida suggest that students who obtain jobs related to their area of study are far more likely to earn higher wages than their counterparts who find employment in an unrelated field. It also indicates that the impact of training-relatedness overshadows any race/ethnic or gender bias and leads to greater satisfaction with the educational system. It seems, therefore, that a desirable social outcome for an education system would include an increased number of students who obtain jobs related to the education or training they receive.

Researchers can perform follow-up for program evaluation in two ways. They may conduct a survey of recent graduates, asking them to report whether they believed their education played a critical role in securing a job. These surveys are imprecise at best, misleading at worst, and expensive in either case. The states of Florida and Texas, on the other hand, have had excellent success in determining training relatedness using a combination of Unemployment Insurance wage record-based linkages and employer surveys—a process known as automated follow-up.

Currently, analysts find it difficult to determine the training-relatedness of students' post-exit jobs.

In order to determine training relatedness through automated follow-up, there must be documentation regarding the type of instructional programs the student completed. Education institutions commonly use the Classification of Instructional Programs (CIP) codes to chronicle program enrollments and completions at the postsecondary level. At the secondary level, however, many states' central education agencies do not even collect data on individual

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students, much less assign course-taking behavior based on a universally adopted classification system. Other states rely on one coding system at the secondary level and another at the postsecondary level with no relationship between the two. If one considers the ultimate articulation with employers, the scenario gets worse. Most firms adopt their own payroll titles or, at a minimum, classify jobs based on occupational classification systems which bear no resemblance to the taxonomies used by public education. Thus, the process of documenting training-related labor market outcomes is confounded on several levels. (See Chapter 10: *Closing the Loop* for more on the benefits of automated follow-up.)

A standard career majors system would greatly facilitate an effective educational follow-up system.

The use of a well-defined career majors system would greatly help in this arena. To implement career majors amidst the various coding systems currently used in the various levels of articulation, each coding system would be crosswalked to the state career majors system. At the secondary level, a stable, documented relationship between courses taken and the career major would exist. At the postsecondary level, each CIP classification would be linked to one or more career majors. At the labor market or employer level, a relationship between occupations (such as those used by the O*NET), and the state career majors system would be defined. Once again, career majors would become the common currency. Regardless of the taxonomy employed by a state, if the capstone experience or program fit in a career majors system, follow-up data could link back to the original course-taking behavior. Figure I, *The Common Currency of O*NET*, provides a simple graphic demonstrating how O*NET could serve as the common link between each of the functions and constituents.

Why not simply ignore the career majors concept and use legacy coding systems to design program follow-up based on existing categories? The primary reason lies in the need to reasonably identify the degree of relatedness without too narrowly defining the occupational outcomes that can indeed be called "related." Only in this way can a useful assessment of training-relatedness be made. Take the example of a diesel mechanic. A student receives a certificate declaring his mastery of the competencies related to diesel mechanics and finds a job rebuilding motorcycle engines in a motorcycle retail store. Clearly, the student is using skills learned as part of his educational experience and thus, intuitively, one might classify this outcome as training-related. However, a diesel mechanic differs from a motorcycle mechanic and thus, at the detailed occupational level, this would not be, strictly speaking, a training-related outcome.

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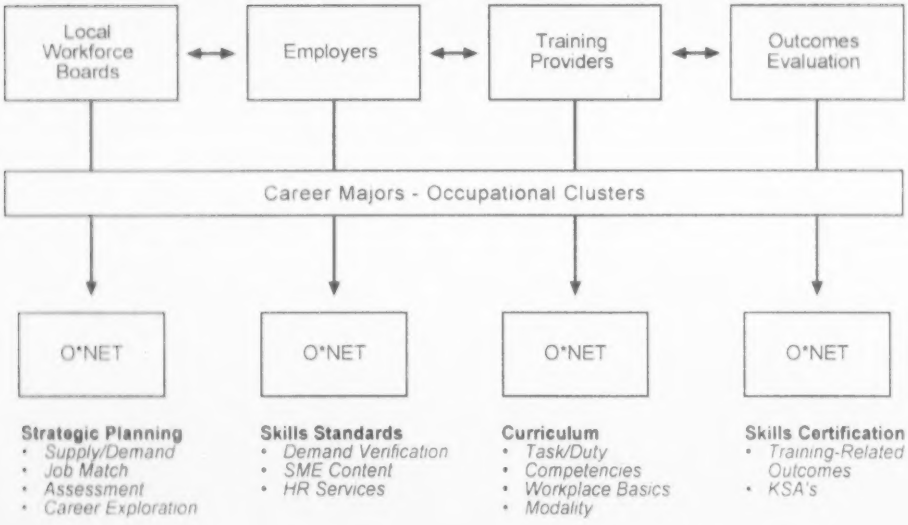
Figure I
The "Common Currency" of O*NET



Since both the training program of diesel mechanics and the occupation of motorcycle mechanics would both logically fall within a career major of Industrial and Mechanical Technologies, however, the career majors concept would allow these two areas to be deemed related. Moreover, this determination would more accurately reflect the impact of the training received. After all, follow-up data systems are commissioned to document outcomes for the purposes of continuous program improvement and not as Machiavellian exercises for punitive purposes—looking for any hair-splitting reason to deny training-relatedness.

A Vision for the Future

The full range of possibilities associated with using a uniform system of career majors in education and labor market analysis abound—true "school to work" experiences. Imagine that the student in the last scenario had selected the Industrial and Mechanical career major based on the career exploration process previously described. Through his school, he has obtained some related world of work experiences and seen the employment and earnings potential of occupations in this major before making his decision. He took high school courses within this major and then opted to go to a regional community college where, to his parents delight, two of the courses he took in high school counted toward his certificate program.

By the time our student completed his certificate, he knew of several possible employers that might offer him a job since they had signed articulation agreements with his regional community college. These employers had helped shape the curriculum and provided several of the mechanical diagnostic tools our student used in the classroom. Once on the job, our student felt fairly content since he received the pay and working conditions he expected based on the career information he had previously viewed. Finally, when accountability time came around for the several public education institutions involved in educating this student, he could be counted as a training-related success story for everyone since the follow-up system used a career majors approach that related his employment to his course-taking behavior.

Although this scenario may not reflect the experiences of all students in the future, it demonstrates the power of the career majors concept when used within the context of a broad brush labor market intelligence system that is integrated at multiple levels. This scenario is not simply idealistic, but eminently practicable. Most of the technology, concepts, data, and classification tools are already in place to turn this example into a fully-functioning integrated education and training delivery system reality.

An educational system that guides students from career exploration to training-related employment would be the practical result of relying on a uniform career majors system.

As this paper demonstrates, the career majors concept means much more than grouping occupations. It is potentially a cornerstone in the construction of a comprehensive education and workforce development system. As the notion of "value-added" becomes increasingly important in the public sector, the creation and use of a career majors system could immediately improve the communication of labor market trends to students, provide a basis for skill standards, improve career guidance, expand program articulation between high schools, colleges and employers, and facilitate program evaluation. Few other endeavors could lead to so many improvements, more rapidly, and at a lower cost than instituting a system of career majors.

Chapter 12
Using Employer Surveys in Labor Market Planning
When and How to Conduct Surveys for Local Workforce Development Programs

If we do not choose to plan, then we choose to have others plan for us.
— Richard Winword

Existing sources of labor market information (LMI) can substantially assist local workforce boards and employment program planners in carrying out their official responsibilities of identifying employment opportunities by industry, occupation, and geographic location. In most cases, available LMI sources will make it unnecessary to conduct employer surveys to obtain additional information. Through a systematic, analytical process, local boards can use the wealth of existing information to identify employment trends by industry and occupation, sources of potential job openings, and the employers that compose the industrial sectors which are expected to be hiring. (See Chapter 7: *Getting Started* for more information about plumbing existing data sources.)

When existing LMI sources lack certain information, however, planners may need to look elsewhere to fulfill data needs. For instance, available LMI can point toward potential job openings in a given industry, but the data may not verify that a particular opening actually exists. Aggregated data may not identify the factors causing the job opening, the needed skills or hiring requirements, benefits, nor precise working conditions. If planners must have a complete understanding of particular job opportunities, they may need to contact employers directly to obtain job-specific information. In these circumstances, a local employer survey may be the best method to obtain the needed data. Such surveys, if carefully conducted, can be combined with existing LMI to provide additional information on a number of issues that are critical to planning, design, and administration of workforce development programs. The purpose of this essay is to acquaint the reader with issues and potential problems associated with conducting direct employer surveys. It describes how to incorporate employer survey data into a regional planning process, how to decide if a survey is warranted, and how to conduct the survey itself.

Employer surveys can be beneficial when combined with existing LMI.

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Applications of Employer Survey Data

Local employer surveys can gather a wealth of information, which workforce planners can apply in many ways. Employer surveys may reveal (1) information on the nature and structure of the internal labor markets of local firms; (2) the number and occupational characteristics of existing job vacancies in local labor markets; (3) the hiring practices and policies of local firms; (4) the hourly, weekly, and/or annual earnings of workers in specific occupations; and (5) the impact of local board customer service and marketing efforts. A more detailed discussion of each of these survey areas and its potential uses appears below.

1. Internal Labor Markets and Entry-Level Occupations

In planning occupationally-oriented training programs under the Workforce Investment Act of 1998 (WIA), local board staff would benefit from the knowledge of the nature and the structure of internal labor markets within firms that would potentially hire training completers. The reasons are simple. First, the information itself, coupled with the closer ties to employers produced by conducting the survey, increases the chances of post-exit placement. Familiarity with internal labor markets affects placement activities because up to eighty (80) percent of job openings never appear in public listings or ads. Only those workforce boards who have ties with and understanding of local firms and their skill needs can take advantage of those "hidden" job openings.

The second reason a planner should be cognizant of employers' internal labor markets is that such knowledge helps local boards plan training for occupations that will be in demand. An employer's internal labor market likely includes entry-level jobs—or "ports of entry"—which allow persons outside the enterprise ("outsiders") to join the organization. It probably also contains jobs tied to internal career ladders, usually filled only by the promotion or transfer of incumbent employees ("insiders"). Knowing which occupations comprise the ports of entry within local establishments and their links with other jobs in the establishment helps planners select appropriate areas for training.

Local boards should know which occupations are ports-of-entry for internal career ladders in local firms.

In most cases, graduates of classroom training programs can access only those positions that serve as ports of entry into local firms. These jobs, which tend to pay relatively lower wages and lack other desirable job qualities, can potentially lead to a positive career path that graduates can travel with additional education and training. The future earnings of workers placed into unsubsidized entry-level jobs depend in part on the nature and closeness of the ties between these entry-level jobs and other positions within the internal labor market.

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Recent research by Career Development Resources (CDR, formerly the Texas SOICC) into the nature of career progressions in the new century indicates that this traditional model of internal labor markets and job mobility may not be as universal as was once believed (*Texas Career Progressions*, 2000). Indeed, workplace changes such as the rise of technology and technical specialists; higher entry-level educational requirements; increased reliance on temporary, contingent, and contract workers; and the increased general volatility of job creation and destruction, seem to be altering notions of a traditional career ladder. In this environment, knowledge of the occupational ports of entry for each firm within a target industry becomes even more critical and can only be identified through direct employer contact.

Conducting an employer survey is the best way to obtain this port-of-entry information. Planners can use industry-occupation matrices based on Occupational Employment Statistics (OES) surveys to gain insight into the relative importance of various occupations in different industries. However, by themselves, the OES data do not distinguish between ports of entry and positions open mainly to incumbent employees. A survey does. Of course, this type of employer survey should target only local employers in the industries or with the specific occupations that project above-average numbers of job openings.

2. Job Openings Data

Comprehensive data on the number and characteristics—both industrial and occupational—of current job openings in local labor markets would be useful for local workforce board program planning purposes in a number of different ways. Planners who know the number of current job openings by occupation and the number of unemployed workers by occupation could identify occupational labor shortages in the local labor market. Some—but not all—of these occupations would merit the provision of workforce development classroom training.

Planners can use job openings data to identify labor shortages in the local market.

If local board staff and program operators could design and administer training programs that would successfully prepare unemployed and economically disadvantaged persons for employment in such occupations, they would simultaneously meet the needs of private sector employers and the unemployed. They would also create a favorable net impact by reducing the level of unemployment and welfare program participation in the local community. Planners should focus such efforts, however, only on those occupations that may provide the employment stability and earnings necessary to achieve longer-term goals. They should avoid those that offer relatively low wages, adverse working conditions, and consequent high rates of voluntary turnover.

How can local boards obtain valuable job openings information? They can choose from a variety of sources. *America's Job Bank (www.ajb.org)* offers the largest list of current job openings nationwide. In Texas, job postings appear on the Governors Job Bank and *HIRE TEXAS* websites. These sites have limitations, however. Estimates suggest that the job orders placed with *HIRE TEXAS* by private sector firms and public agencies, for instance, account for only a relatively small proportion (10-15 percent) of total job openings—although this ratio varies by industry and occupation within the state. Since these job listings are not random, they may not necessarily reflect a true cross-section or unbiased sample of all available job openings. In other words, users cannot generalize them to all local job openings.

The *HIRE TEXAS* website offers free statewide job postings information.

Many regional employer services units in the Workforce Centers reach out to employers to increase the volume of openings posted through the employment service. Statistically, the more openings they post, the greater the likelihood that these data will represent all job openings in the region. Even if the data are not representative, some of the openings listed may be appropriate for workforce development programs and a segment of resident customers—especially lower skilled jobs that may be suitable for transitioning welfare recipients.

What can local boards do if sufficient data on job openings are not available from the Employment Service? Some local boards conduct local employer surveys to estimate the number and occupational characteristics of current job openings in the area. Such surveys should focus on subsets of local industries characterized by recent above-average rates of growth in employment and by staffing patterns containing occupations that have substantive skill requirements which workforce participants can receive through training in a reasonable period of time (e.g., 6-8 months). Such targeted survey efforts cost less and are more useful than attempts to cover the entire labor market.

Employer surveys to capture job opening information can be a mixed bag, though. Since even the most efficient survey requires several months to complete, supposedly "current" job openings are already dated by the time planners analyze survey results. Thus, even surveys purporting to capture information on current openings may actually provide limited guidance for direct placement activities and even less basis for long-range planning.

Moreover, asking employers about *current* job openings is one thing; asking them to speculate about *future* job openings is another. For a variety of reasons, some of which this essay describes in subsequent sections, employers have proven to be notoriously poor at quantifying their future staffing needs.

Employer surveys can, however, be useful in estimating the number of current job openings in selected occupations and industries. Job opening estimates can provide, at a minimum, a baseline of employer demand, e.g., the employers answering a survey report at least "X" number of unfilled openings. This demand is true whether or not the survey results represent the entire labor market or not. Employer surveys also capture information on the duration of such job openings (how long have they been available) and the factors responsible for their existence (turnover, lack of qualified skilled applicants, etc.). In any event, planners should always use a snapshot of available job openings derived through an employer survey in conjunction with readily available labor market information in a comprehensive planning effort—not in isolation.

3. Hiring Policies and Practices of Local Firms

Local workforce boards need to know the hiring policies and practices of local firms in order to properly design and administer occupationally-oriented classroom training programs and to successfully develop on-the-job (OJT) slots for eligible individuals. These practices include firms' propensity to recruit workers, their strategies, and whether they regularly use contract or contingent workers.

Many of the available LMI sources provide information on the hiring practices and policies of local firms. For instance, the job orders placed with the Employment Service by employers frequently contain detailed information on hiring requirements, including educational levels and previous experience. Many of the occupational profiles available in automated information systems, such as CDR's *Texas CARES* and *OSCAR* software, detail employee characteristics that are generally necessary to succeed in a given occupation, such as temperament, interests, knowledge, skills, and abilities.

"Local wisdom" can be helpful when added to more empirical data.

Another source of hiring information is "local wisdom." Most local boards have employer or LMI subcommittees to provide information on the job duties of workers in specific occupations and the typical hiring requirements of local employers for such jobs. This information is primarily descriptive and qualitative in nature, rather than quantitative. Nevertheless, this local wisdom can represent a valuable addition to the more empirical, though sometimes detached, analyses performed using statistical data. Local planners must ascertain, however, whether local employer input and other anecdotal evidence is indeed representative before using them to guide program decisions. The infamous "Cousin Ernie Phenomenon," gathering information informally from the unique experiences or impressions of family members or close friends (maybe even local board members), does not constitute legitimate labor market analysis and must be applied judiciously if at all. (See Chapter 6: *Using "Local Wisdom" in Regional Planning* for more on this topic.)

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In the absence of suitable data from these sources, planners may conduct local employer surveys to collect a wide variety of information on the hiring requirements of local firms for particular occupations. These surveys may also reveal sources of labor supply or recruitment practices utilized by various local firms in securing their employment needs in those same occupations. Knowing the formal education, experience, and specific skill requirements for particular occupations, as well as personality traits, test scores, licensing, and other requirements of local employers would help planners design the appropriate curriculum content of classroom training programs of eligible training providers. This information would also be useful in developing appropriate criteria to guide choices of eligible individuals via Individual Training Account vouchers for participation in such programs. Detailed local employer input into the planning and design of occupationally-oriented classroom training programs would help improve the overall placement performance of such programs.

4. Hourly Wages and Hours of Work by Occupation

When selecting occupational areas for training, local workforce boards should determine the earned income potential of particular occupations in local labor areas. This potential depends on the occupations' prevailing hourly wages, the weekly hours of work they provide, and their employment stability. Local boards can measure the employment stability of jobs by the number of weeks of employment that they can potentially provide to jobholders during the year; i.e., whether they afford year-round employment (50-52 weeks) or only part-year employment due to seasonal factors.

Several state-level data sources publish information on the hourly or weekly wages of workers in particular occupations. One source is the state-produced regional occupational wage data estimated through aggregates derived from all job orders listed through *HIRE TEXAS*. A second and more comprehensive source is OES survey data collected and produced by the Texas Workforce Commissions' LMI department. Both of these sources provide current, detailed, and comprehensive occupational wage data. The 2000 Census of Population and Housing will provide detailed information on the annual earnings of workers in state and local labor market areas during calendar year 1999, but the Census Bureau will not publish results of the 2000 Census until 2001 or even later. Moreover, the annual earnings data from the decennial census have a number of shortcomings that limit their usefulness for identifying the earnings potential of jobs in specific industries and occupations.

The state publishes hourly and weekly wage data, which can help the local board determine which occupations to target.

In general, the available data sources for wages of workers in specific occupations have a number of limitations, including reduced occupational coverage and limited geographic representation. The OES survey, for example, collects wage

ranges, making calculations of a specific prevailing wage difficult. Furthermore, the OES survey focuses on metropolitan areas only. If a workforce board wants to compare wage data for a large central city, such as San Antonio, to the surrounding rural counties, the local board cannot find this information through any public data collection program.

The employer survey should focus only on wages for targeted occupations, not all possible occupations in the area.

A local employer survey can compensate somewhat for the limitations of extant LMI on occupational wages. Once again, planners should target those occupational areas under consideration for local board funding, rather than collect wage data for the universe of occupations. The survey should attempt to capture information on each occupation's starting hourly and/or weekly wages for workers with no previous experience in that position. It should also obtain the average or prevailing wage for incumbent workers and the maximum wage generally paid in each occupation. Finally, it should gather data on the weekly hours of work, as well as on the typical employment stability of these jobs.

Planners should analyze the wage and hours data for each occupation to determine the variations in wages paid to workers among local industries and among firms of different employment size classes within a given major industry group. Knowledge of these local inter-industry and inter-firm wage and earnings differentials for given occupations would help guide the development of OJT contracts for eligible individuals and the job placement process for graduates of future classroom training programs in these occupational areas.

Before commissioning a survey to collect mainly wage data, the local board should also investigate the many existing sources of wage data available through private firms. Collecting occupational wage data is a big business, especially in the human resources arena. While spending several thousand dollars to purchase wage data may seem costly on the surface, it may be less expensive then conducting a survey.

5. Local Board Customer Service/Marketing

Workforce boards may desire to survey local employers to obtain their views on the structure of the local workforce development system. Such surveys would reveal the extent to which local boards are fulfilling the mandate of WIA and Texas House Bill 1863 of 1995 to treat employers as customers on par with job seekers and public assistance recipients. (See Chapter 8: *The Other Customer* for more details.) Marketing-related surveys can obtain information on local firms' awareness of existing local board programs and services, their current use of those services, and their interest in obtaining further information on the availability of additional workforce development services.

Local boards may conduct customer service surveys as well. These employer surveys may ask local firms to assess the quality and effectiveness of services that they received in the past from the local board, as well as those provided by other employment and training agencies, including public vocational education agencies and private training schools. The local board could use this information to recommend ways to improve the effectiveness of local workforce development programs. The findings could also help the local board develop information based on results of exiters from local programs, using this "demonstrated effectiveness" to guide future funding decisions.

Before relying on employer surveys to determine the effectiveness of programs, local boards should review the annual research produced by CDR's Automated Student and Adult Learner Follow-Up System. The programs participating in the system have achieved tremendous economies of scale and extensive outcomes coverage. This approach uses automated record linkage techniques to administrative records databases, such as Unemployment Insurance wage records, instead of employer or participant surveys, to collect outcomes and training provider performance information. This new approach's success in identifying the labor market and continuing education outcomes of workforce and education customers after they receive services has already surpassed that of the survey method, and at much reduced costs. Many of the results by training provider and program can be viewed via the *DECIDE* Internet-based system at *http://decide.soicc.state.tx.us*.

Before conducting an employer survey to determine program effectiveness, review CDR's Automated Follow-Up System reports.

As the examples above reveal, local board surveys of local employers can achieve a variety of objectives. These objectives, however, may conflict with one another. It is highly unlikely that any one employer survey can achieve *all* of these competing goals. As mentioned before, local boards should use employer surveys to augment available labor market information rather than attempt to collect information on the universe of industries, employers, or occupations.

Identifying the Need for an Employer Survey

While information gaps exist in available LMI, local boards should think carefully before deciding to conduct an employer survey, weighing the benefits of the survey and the likelihood of obtaining the expected outcome. The local board may need additional data, but a formal employer survey may not be the appropriate data collection mechanism. Before turning to an employer survey, the local board should exhaust all other, less costly options. Did it thoroughly research all available labor market information? Did it consider conducting employer focus groups if the desired data are limited to only a few industries or

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occupations? Because of the cost of most employer surveys and their relatively high failure rate, local board should follow several critical steps before deciding to conduct a formal survey.

Step 1: Define the information needs. What data do the local board need? How will planners use the data in the planning process? How will they assist the decision-makers? Local boards should clearly define their data needs in order to narrow the focus of the collection effort and avoid collecting unnecessary data. Data collection can be justified only when it will have an impact upon the decisions to be made.

Step 2: Use existing sources. Although the needed information may be unavailable in electronic or published, readily accessible formats, the LMI source agencies may have resources for special data development. After carefully defining the information needs, local boards should contact the Texas Workforce Commission (TWC)'s LMI and CDR departments to request the additional information. Their help may avert a costly employer survey.

Step 3: Assess the survey. If entities such as the TWC LMI department cannot produce the needed information, the local board should carefully review the potential costs of a survey, the correct survey procedures, and the likelihood that the data collected would be reliable. It should also consider the fact that relying on survey data to guide program operations forces continuous replication of the same survey over time to assess changing market conditions. Is the local board willing to carve out resources every year to update survey findings? The TWC LMI and CDR departments can help the local board assess these factors and consider all other alternatives to a survey.

Step 4: Make the decision. If data are not available, the local board should reevaluate the information requirements to determine whether planners absolutely need them, whether they can use alternative data or "proxy" variables instead, or whether they can drop the data items without adversely affecting the planning process. Finally, the local board should make a final determination of whether conditions warrant a survey.

Step 5: Coordinate the survey. If the local board decides to conduct a formal employer survey, planners might consider coordinating the survey through the TWC LMI department in order to take advantage of any related activity (e.g., available questionnaires, sample design, etc.), avoid duplication of effort, and preclude any adverse impact upon existing survey programs. Alternatively, the local board may rely on a university-based survey research center that may be willing to either piggyback questions on other survey forms or conduct the survey on the local board's behalf.

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Local Employer Survey Design

No manual of survey operations would apply equally to all local employer survey efforts—especially given the potential for substantial diversity in the types of information that local workforce boards may wish to collect from local firms. As a result, the discussion here focuses primarily on a set of basic survey elements that are essential for designing and conducting any employer survey capable of yielding useful information. These elements include the formulation of survey goals and objectives, the use of survey concepts, the design of survey instruments, the use of a sampling frame, and the development of a sample design.

This section also briefly covers alternative data collection techniques, potential problems of non-response, survey management techniques, and data output. While these topics are discussed separately, they frequently inter-relate within the ongoing operation of a local data collection effort. In addition, inconsistencies in or problems with one component of the survey process can adversely influence other parts in such a way as to substantially undermine the value of the entire survey effort.

Developing Survey Goals

A survey's goals and objectives substantially shape other major components of the survey, particularly the sample design, the development of the survey instrument, the cost of the survey effort, and the selection of data collection techniques. Consequently, determination of goals and objectives deserves thoughtful consideration before proceeding.

The local board may establish two general sets of goals for its local employer surveys. The first set of goals is *analytical* in nature. These goals focus primarily on developing statistically reliable data for research, planning, and/or evaluation purposes. The second and quite different set of goals for a local employer survey concentrates on improving ongoing operational aspects of the local workforce development system. These components include improving the job development and placement performance of the system or enhancing the marketing of local board services to local business establishments. To clarify the desired goal, the local board staff might even create the types of tables and reports they hope the survey results will make possible in order to be certain of what they want.

To clarify the survey's goals, local board staff might design the reports they hope the survey will make possible.

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Frequently, local boards want to accomplish both types of goals with a single type of survey in the name of expediency. Unfortunately, designing a survey that is both analytically and operationally useful can be quite difficult. Often, the two goals conflict with each another. A survey designed to produce information to support planning, research, and evaluation efforts, for example, would rely on a random selection of firms to participate in the survey. An effort to market local board services, such as soliciting job postings, however, would ideally target a specific set of firms—those most likely to need such services or be amenable to receiving such services.

Biases in survey results offer another reason analytically-oriented and operationally-oriented surveys cannot not easily be conducted in one instrument. "Response bias" may occur when a respondent willing to provide information for research purposes does not desire to participate in local board program activities. "Non-response bias" may arise when an establishment simply refuses to cooperate with the survey. Indeed, firms may choose not to participate in a local survey for a wide variety of valid reasons.

Different types of surveys can lead to different types of survey biases.

Clearly, a critical first step in the development of a local employer survey is to explicitly define the set of overall survey goals and to examine the extent to which such goals may conflict with one another. Local boards should pay particular attention to the potential biases that may occur as a result of attempting to achieve multiple goals within a single survey process.

Developing Survey Concepts

Survey concepts play a key role in any type of labor market survey. In a nutshell, "survey concepts" are operational definitions for specific terms used within the survey. They should be clear, concise, measurable, meaningful, and consistent with existing LMI. To be meaningful to both the data collector as well as the respondents, a survey should define concepts in a readily understandable, rigorously explicit manner. For example, if a survey questionnaire asks private sector employers to describe their "hiring requirements," responses would likely differ quite sharply among respondents. The question does not sufficiently define the "hiring requirements" concept, forcing cooperating employers to depend on their own interpretations of the term, which might vary. If, on the other hand, a questionnaire asks employers to "list the number of job openings that were immediately available for workers outside the firm at a given point in time," the range of responses would likely be more narrow because the "hiring requirements" concept is more vigorously defined.

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Rigorously defined concepts allow for accurate measurement of a specific type of employer activity or behavior, e.g., new hires and current job openings. Accurate measurement is a key requirement of concept design. Accuracy depends in part on how well respondents understand the measure. It also depends on whether individuals in the responding establishment (e.g., human resources managers) possess the information required to respond accurately to the survey questionnaire.

Firms usually possess more information related to recent or current firm behavior rather than its future intentions. An establishment may readily supply accurate information on its past and current employment levels, for instance, but have no projections about its anticipated employment levels at some future date (e.g., one to two years). It would similarly lack knowledge of what production practices, capital equipment, or other technology might drive the need for uniquely skilled workers in the future.

Employers' general inability to project future employment or skill needs is well-documented. Until 1975, the Area Skills Surveys, sponsored by state and local workforce development agencies (including Employment Service and vocational education agencies), sought to capture information on firms' projected levels of employment and anticipated hiring needs by occupation. A formal evaluation of the Area Skill Surveys program revealed those employers surveyed often simply did not know, nor were they able to reasonably project, the likely level of employment for their firm in the future. Although employers readily understood what the survey sought to measure (i.e., the concept was meaningful), they did not possess the means to provide accurate responses. The survey concepts in this situation were essentially not measurable for most establishments. As a result of this research, the U.S. Department of Labor replaced the Area Skill Survey methodology in the early seventies with the OES survey. The OES survey simply asks employers to describe their *current* occupational staffing. Employer responses provide government analysts with an industry-occupation matrix that analysts use to project occupational demand. The Bureau of Labor Statistics (BLS) continues to this day to support the development of long-range occupational projections through the use of the OES program.

Employers may not be the best source for gathering projected employment or skills needs.

Despite this history, some form of abridged employer surveys, designed to provide information on short-range (one to two years) local needs, may be useful. Such surveys intend to spot-check the occupational needs of local employers in order to verify the need for training programs in specific occupations. These abridged surveys (often referred to as Training Needs Surveys) usually occur over the telephone rather than through means of a

mailed questionnaire. In addition, these surveys focus on a limited number of employers, industries, and occupations. *They do not purport to generate a statistically representative measure of the entire labor market or labor market trends.* Instead, they are used for internal purposes only to evaluate the need for establishing training programs for specific occupations. As a result, the data resulting from these abridged surveys should not be published or used as general purpose statistics.

In addition to developing survey concepts that are both measurable and meaningful, local workforce boards and their staff should carefully consider the intended uses of the data. Local boards should devise concepts that are comparable with existing sources of labor market information to increase the data's usefulness. If a local survey's concept of "job opening," for example, mirrored existing BLS concepts of employment and unemployment, analysts could integrate survey data with available LMI. By basing survey concepts on standardized concepts or classification systems, then, analysts could compare the estimated number of unemployed workers and job openings by occupation and calculate job openings rates [openings/(employment + openings)] for selected occupations.

Designing the Sample for Local Employer Surveys

The motive behind a survey is generally to collect facts or impressions from a representative sample of respondents in order to reasonably gain knowledge about a large group of persons without having to ask *everyone* the same question. A local board must select a representative cross-section of potential respondents if it wants to generalize the responses of these few to the whole. Designing a representative sample requires statistical precision and careful monitoring of responses. The following survey design elements explain some of the areas that local boards must consider as they conceptualize a survey.

The survey sample must represent a cross-section of employers if the local board wants to generalize responses.

Survey Scope

After developing overall survey goals and defining survey concepts, the next task entails determining the "scope" of the employer survey. An employer survey's scope refers to the population of business establishments about whom the local board would like to learn something. Depending on the survey goals, the scope can be broadly or narrowly defined. If a local board wants to learn the number or occupational distribution of new hires within their local labor markets, for example, it could define its survey scope as all non-agricultural business establishments in the local labor market.

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Alternatively, the local board may have analyzed existing industrial employment trends and occupational staffing pattern data and identified a set of specific industry-occupational job clusters that it believed to be suitable for training. The scope of this survey would include only those establishments whose Standard Industry Classification (SIC) fell within one of the relevant industry-occupation clusters.

In general, employer surveys characterized by a broad scope are more difficult to conduct than more targeted surveys. Identifying specific employers to target, thereby narrowing the survey's scope, is preferable. Through the use of detailed industry employment data such as UI-covered employment and occupational staffing pattern data, local board staff can identify industry/occupational clusters that are experiencing favorable employment growth. Local board data collection efforts can focus on these specific job clusters to produce a wide variety of information about their characteristics.

Sample Frame

After determining the scope of the employer survey, the local board must secure a sample frame. The "sample frame" is a listing or designation of the universe of elements in the sample population. At a minimum, this sample frame should identify the name, address, size class, and industrial classification of the entire set of establishments within the survey's scope. Today, sources for employer mailing lists abound for direct mail marketing and other outreach and research purposes.

If the local board does not have access to establishment address listings from a marketing or other employer database already, local board staff might consider using existing local industrial directories, such as a Chamber of Commerce membership list or a Directory of Manufacturers, as a sample frame. Such directories may require a substantial alteration in the scope of the data collection effort, however. Only rarely will these directories include all of the business establishments within a local labor market area or even all of the establishments within a selected subset of industries within an area. Consequently, an employer survey using local industrial directories will likely be limited in scope because the sample frame does not represent the universe of employers. Inferences based upon such survey data can be made only for the set of firms included within the directory, and not be generalized to the entire population.

The sample frame designates all the elements in the sample population, e.g., name and industry code.

Another limitation inherent within most local industrial directories is that they likely make attempts to develop statistically reliable estimates of variables, such as new hire rates and job openings, quite difficult. Thus, while local industrial directories can be useful as the sample frame, they are best suited for conducting surveys designed to provide insights into the activities of that selected set of individual firms. Limited sample frames developed from these directories may help in developing profiles of specific local business firms, including their internal labor markets, hiring policies and practices, wage policies, and training practices.

Sample Size

After the local board defines the survey's scope and procures a sample frame, the next step involves determining the overall sample size for the survey and developing methods for selecting establishments to include within the sample. If local board staff intend to use an employer survey to produce statistically reliable estimates of labor market variables, they face two major considerations. They can draw the sample size based on desire to avoid a sampling error or on the amount of resources they can devote to the survey's operation. In general, the larger the sample size, the less likelihood of sampling error and the greater the survey cost.

In a sense, a sampling error measures the potential degree to which the mean of a given sample may fail to truly reflect the mean of the entire population. It results from the fact that surveys reach only some fraction of the population of establishments. The less chance of sampling error, the more confident a local board can feel about estimates that the survey produces. In a probability-based survey, it generally follows that increasing the size of the sample decreases the sampling error associated with estimates produced by the survey.

The larger the sample, the lower the risk of error and the greater the cost.

Sampling error is also influenced by variations or differences in the characteristics of elements of the population. For example, if a local board wishes to measure new hires by occupation among local business establishments, the sample size required to do so would depend in part on the degree to which new hires occurred among firms, as well as on the desired level of confidence in the estimates produced. If all firms hired the same proportion of new workers into similar occupations, required sample sizes would be relatively small, even if researchers desire a high degree of confidence. If, however, local firms tend to hire sharply different proportions of workers into diverse sets of occupations, then the sample size required to produce estimates with a given level of confidence would be relatively large. Thus, on the basis of purely statistical criteria, the sample size will be determined by the amount of sampling error that the local board is willing to tolerate *and* by the relative homogeneity of the population to be studied.

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The process of determining appropriate sample sizes requires consideration of more than the desire to avoid sampling error. It must also look at the level of resources that the local board is willing to devote to the data collection effort. Using the statistical approach discussed above, a local board may find, for example, that it needs a stratified sample of 1,500 establishments to produce an estimate with the desired degree of statistical confidence. Meanwhile, the local board allocates no more than $30,000 to the survey effort. Contacts with other local workforce boards, a local university, CDR, or the TWC LMI department reveal, however, that the likely cost of such a survey would be $30 per sample unit. Sampling 1,500 units would, therefore, raise the survey's estimated cost to $45,000.

Sample size selection should depend on risk of error and amount of resources available.

To stay within the predetermined budget, the local board would need to reduce the sample size to 1,000 units. This reduction would increase the potential for sampling error. Nevertheless, determining sample sizes based on a realistic appraisal of per unit costs and the overall survey budget is appropriate. Without such consideration, local boards may encounter serious problems when data collection begins, including failure to achieve adequate rates of response.

Sample Selection

Methods for selecting the sample of establishments depend on the reasons for the survey. Does the survey produce statistically reliable data (i.e., that analysts can generalize to the larger population) or empirical data on a specific population subset (i.e., that apply only to a certain group)? If researchers design the survey to produce statistically reliable estimates with a given degree of confidence, they should use a random sample selection process with a known probability of selection. Random selection simply means that, within a given population, each unit (i.e., business establishment) has the same probability of being included within the sample. Planners should calculate the probability of a given unit being selected (the sampling ratio), since they will use the inverse of this particular probability to draw inferences about the overall population within the scope of the survey. The inverse of the sampling ratio is the weight attached to each response when generalizing the survey results to the entire population.

A simple example illustrates probability calculations. If a sample is designed to select one of every three units in the population, its sampling ratio is 1:3. The inverse of this ratio (3) becomes the weight upon which estimates for the entire population will be based. This process applies to simple random samples. Often, however, employer surveys are based upon a "stratified random sample," which divides the sampling frame into clusters or cells. Such stratification permits over-sampling in some cells while maintaining overall randomness since the probability of selection of a given unit within a cell remains the same for all units within the cell.

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Random selection of units for inclusion within the survey would likely prove inefficient if a local board wanted the survey to produce empirical data on a subset of firms. If the local board wanted general information on the hiring, training, and wage policies of local firms or sought to develop information for use in local board program operations, such as job placement, it would adopt a different sample selection method—one that would involve identifying a particular set of firms within the local labor market area that met certain criteria.

To develop these criteria, the local board should utilize existing labor market information on industry employment and occupational staffing patterns available from the TWC LMI department. With the information on industry employment growth and the occupational composition of employment within industries, local board staff would gain insight into the specific industry and occupational areas in question and use that knowledge to select for the sample only specific establishments the local board wanted to study further.

This sample selection method precludes the development of statistically reliable estimates for the universe of establishments. Nevertheless, given the existing data gaps reviewed in previous sections of this essay, a non-random sample selection may be most appropriate for meeting the bulk of local board data needs.

In some cases, a non-random sample might meet most of the local board's needs.

Sample selection represents the final phase of survey design. The next step in the process is data collection.

Survey Data Collection

The data collection process typically employed in conducting local employer based surveys entails initiation, data collection, and follow-up. This section describes each component in some detail.

Initiation

"Initiation" simply refers to the process of enlisting employer cooperation in the survey effort and identifying the individual(s) within the establishment who have access to the desired information. Often, particularly in larger establishments, different types of employment and hiring information are available in different units within the establishment. In one firm, for example, the payroll office may have data on current employment levels and weekly earnings of employees, the human resources office may house information on starting hourly wages of jobs or current job openings, and the chief executive officer may possess information on the firm's strategic direction and changing

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business practices. Although many employer surveys simply mail the appropriate form to the payroll department or human resources department, targeting a specific individual with known access to the desired information yields better results.

Survey initiation, then, does not directly generate information on establishment behavior. Instead, its purpose is to identify a specific contact person within the establishment, to explain to that individual the survey's purpose and describe its features, and to request his or her cooperation. Generally, initiation takes place over the telephone prior to the actual data collection effort. In some cases, the researcher may send a well-designed pre-survey letter, fax, or e-mail and then follow up with a telephone call.

Information Collection

After initiation has been completed, the actual process of data collection begins. Researchers can use one of three approaches—mail, telephone, or personal visit—to collect the necessary information from employers. Currently, using the Internet and e-mail to conduct surveys raises significant issues of reliability and sample bias; these methods fall outside the scope of this discussion. Depending on the types of questions asked and the sample size, any one or a combination of the basic three approaches may be appropriate. If the questionnaire is brief and respondents purportedly have ready access to the information, researchers may use a phone survey. If, at the other end of the spectrum, the questionnaire is highly complex, i.e., requesting information on a variety of topics, personal visits may be required.

The method of data collection—phone, mail, or personal visit—depends on the survey and the employers. A combination of approaches may work best.

Often, a mix of approaches may be most appropriate for collecting information from various employers. For example, the collection of the requisite information from larger establishments may prove to be more difficult due to organizational complexities, including information security concerns and firm protocol. In such cases, personal visits may prove necessary. Due to the lower degree of organizational complexity within the smaller establishments, however, phone collection may be the most effective strategy. In general, of course, most surveys rely on mailed questionnaires because they are less time- and staff-intensive than the other methods.

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Follow-Up

Typically, initial attempts to obtain information from employers fail to produce an adequate overall rate of response. Consequently, in order to avoid non-response bias, substantial follow-up efforts will likely prove necessary. Even in cases where local boards conducted successful initiation, a large percentage of the response generated by the survey effort will require at least one follow-up contact. Since follow-up contacts made through the mail are usually ineffective, most follow-up efforts will consist of telephone reminders, direct collection of information over the phone, and field visits. With this reality in mind, local boards should plan from the start to devote considerable resources to follow-up data collection efforts.

Local board staff can minimize the costs associated with follow-up through organization and planning. They should carefully examine the control file (the record of survey responses described below) and identify particular industrial, geographic, or employment size-class areas with lagging response rates. They can then target only those areas for follow-up efforts, which will decrease the cost and effort of follow-up in general.

Internal Management of the Local Employer Survey

The organization of the employer survey data collection effort by the local workforce board greatly influences the production of information useful for either analytical or operational purposes. Most local employer surveys are designed to capture a rather substantial number of individual pieces of information from a large and diverse number of local firms. Consequently, survey operators must develop effective techniques for managing the data collection process in order to produce timely and accurate information. A "control file" and "schedule flow" are key to smooth information processing.

The basic tool used to manage a local employer survey is a control file. A control file, usually a database, contains a record for each establishment in the survey, including firm name, address, SIC code, employment level (if available), contact name, and a unique identification number assigned by the local board. The control file enables the local board to track the response status of individual units within the sample. In addition, it helps monitor the overall response rate of the survey.

The control file and schedule flow ensure smooth processing of survey information.

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The survey operator should develop unique response status codes to use when updating control cards to reflect a unit's status changes. At a minimum, these codes should include:

- Out of business
- Out of the survey's scope
- Usable response
- Unusable response
- Pending response
- Non-response
- Refusal

The use of such codes illustrates two benefits of a control file. It enables the survey operator to identify problem areas, such as high rates of non-response or a poor or dated sampling frame. The latter problem appears in the form of establishments found to be no longer in existence or outside the scope of the survey. Based on information contained within the control file, follow-up data collection efforts can focus on specific areas where response rates are relatively weak. In addition, it helps the operator track follow-up activities. The file should provide space to record the date of each contact and the method of follow-up used—e.g., mail, telephone, or personal visit.

Assigning codes to different types of responses comprises only one aspect of response processing. In addition, the process includes the following tasks:

- Recording incoming responses in the control file, perhaps using a checklist, and marking each response as "received" so that responding employers do not receive a follow-up survey;
- Editing and screening responses, i.e., reviewing the information provided to ensure internal consistency and comparing control file information with response information;
- Following-up with employer contacts to obtain additional information or to correct inconsistencies in the information provided;
- Updating the response status of establishments in the control files (e.g., usable versus non-usable) after follow-up; and
- Organizing responses for use in producing data tabulations upon completion of the data collection effort.

While many of the tasks outlined above appear to be rather mundane, errors associated with the processing of data can lead to a substantial reduction in the accuracy of the data when final tabulations are produced. At best, mistakes can greatly increase the time and resources needed to process the data. In organizing internal processing efforts, local board staff might consult with TWC's LMI research staff or faculty from a local institution of higher education on methods for effectively organizing the overall internal processing operation.

Tabulating the Results of the Survey

The final step in the survey process is tabulating the results. Depending on the local employer survey questionnaire design and sample size, the survey operator may be able to tabulate the survey data in a wide variety of ways, including probability-based estimates of key variables, summations of responses received, or cross-tabulation of responses by occupation and/or industry, as well as employer profiles. The method(s) chosen depend on the analyst's expertise. The first method, probability-based estimates of new hire rates, turnover rates, and vacancy rates, requires substantial sophistication with respect to the use of statistical techniques and likely a computer system's capability as well. Problems in treating "atypical" responses and adjusting for non-response can prove quite challenging.

Not all methods require such skill. Even local board staff with little or no training in statistical analysis can produce some data tabulations. An operator may simply prepare a number of tables designed to summarize all of the response data received. If 700 local employers reported new hires data by occupation, for example, then the tables would summarize the responses by occupation across all 700 usable responses. Spreadsheet or database software make such tables relatively easy to produce. Of course, these tables do not provide information about those employers who failed to respond to the survey, but they may offer substantial insights into the hiring behavior of a substantial component of the local labor market. Since they do not reveal whether the responses received represent a true cross-section of all employers in the survey universe, however, these tables may seem misleading in cases where large numbers of firms within a specific segment of the sample failed to respond to the survey (response bias).

Even without training, local board staff can produce simple, yet worthwhile data tabulations.

Finally, local boards may develop individual profiles of the hiring, training, and promotion practices and policies of local employers. Such profiles could contain information on ports of entry occupations, hiring practices and policies, starting wage rates and hours of work, and promotion or career path opportunities. Local board staff could find that type of information—organized by occupation on an individual employer basis—extremely useful for a wide variety of counseling, planning, and job development purposes.

The initial process of thinking through the types of tabulations desired should occur simultaneously with the development of overall survey goals. During this planning stage, local boards might develop hypothetical table formats. As mentioned previously, the preparation of such tables will likely clarify a number of issues related to the overall design of the survey and help circumvent problems associated with producing desired tabulations once the data collection effort is complete.

Closing Thoughts

Employer surveys can provide useful and actionable information to help guide program operations. Conducting a survey to gather reliable and valid information, however, is far from easy. Some compare running an employer survey to committing a crime: think twice before doing it because there are innumerable ways to get caught! No one involved enjoys the frustration of conducting a survey, incurring the costs, and ending up with unreliable information. The best approach to gathering information for workforce development purposes is to exhaust the available labor market information *before* filling in the gaps with survey data. Hopefully this essay has provided some insight into the basics of survey design and administration so that even those local boards that decide to commission a survey can knowledgeably shepherd the process.

Much of the conceptual foundation of this essay text originally appeared in a Department of Labor publication entitled Jobs in the Private Sector: Use of Labor Market Information *published in October 1980. The original monograph was prepared and edited by Richard Froeschle, Mark Hughes, and William McKee at North Texas State University. Andy Sum and Paul Harrington of the Center for Labor Market Studies at Northeastern University compiled much of the original content. Richard Froeschle, Department Head of the Texas Workforce Commission's Career Development Resources, updated and redrafted this essay in an effort to help local workforce boards better understand the various uses and limitations of both secondary statistical LMI and employer survey information.*

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CAREER DEVELOPMENT RESOURCES

(formerly the Texas SOICC)

9001 Interstate Highway 35 North, Suite 103-B

Austin, Texas 78753-5233

1•800•822•7526

www.soicc.state.tx.us

Texas Workforce Commission